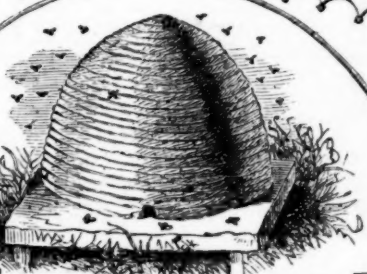
VOL. XI. No. 4.

APRIL, 1875.

THE AMERICAN BEE JOURNAL



A MONTHLY MAGAZINE,
DEVOTED EXCLUSIVELY TO BEE CULTURE.

Established in 1861, by the late Samuel Wagner.

AND

The National Bee Journal,

CONSOLIDATED.

Cedar Rapids, Iowa:

THOS. G. NEWMAN & SON,

PUBLISHERS.

THOMAS G. NEWMAN & SON, PRINTERS, CEDAR RAPIDS, IOWA.

Contents of this Number.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XI. CEDAR RAPIDS, APRIL, 1875. No. 4.

American Bee Journal.

W. F. CLARKE, Mrs. E. S. TUPPER, } EDITORS.

Seasonable Hints.

The eggs of a queen are developed by heat, just as are the eggs of a fowl. Bee keepers are apt to forget this, in the spring, and do not economize the heat of the hive. We have seen hives out of doors in this month of changeable weather—with all the holes or top open, and the entrance as large as it ought to be in summer. Bees need no ventilation now. Every crevice should be closed and the quilts kept on the frames, that none of the heat generated by the cluster escape. If there are but few bees in the hive, we always remove all comb except as much as the bees can cover. For instance if the bees can only protect the brood, deposited in two combs, take out all the others. As the circle of brood grows larger and the weather warmer, add one comb at a time until the hive is full. In this way we succeed much better than we did when we left the hives full of comb. We have always fed colonies that needed it inside the hive, on top of the frames or in one side—and have no experience in feeding all together in the open air; but Mr. Dale, one of our most successful Iowa bee-keepers, tells us, that he has practiced feeding outside the hives with good results. We inquired if he did not in that way feed his neighbor's bees, with his own, and he gave us his method of preventing this, as follows:

"I put the sugar syrup into my shallow feeders, near the hive, quite late in the afternoon, after all is quiet about the hives. At that time my neighbor's bees are at home and will not be attracted by the food. To make my own bees find it—I go to the hives, with a dipper of the syrup and a spoon and throw a little into the entrance of the hive. The bees rnsh out, as bee-keepers know they will do, in such cases, go to the troughs and work busily until all is taken up. I give them no more then they can carry in; if any remains over, I take it away."

Mr. Dale says it is fun to see how busily they work at it, and how much good it seems to do them. We shall try this method in our own apiary as soon as spring comes. We need not say that it should not be tricd when there is any chill in the air, and would also advise that the syrup should be quite warm when put in the troughs. Weak colonies will be the better for feeding inside the hive, in addition to this.

Be on your guard against robbery. Prevention of this is easier than cure. See that every hive has a queen—have all entrances closed, and there is little danger. If you see that robbers are attacking a hive, take it at once to the cellar until all bees are in the hives, then take it out and examine it. If it is queenless, give it a frame of brood from another hive, if you have no queen for it; but if it is only weak, protect it, and it will take care of itself. T.

Experiments with Honey.

A correspondent of the *Scientific American* has been experimenting to prevent honey candying, and states his experience as follows: During the past autumn, I have experimented as follows: I put up six 1 lb cans of beautiful linden honey, being careful to make it into one homogeneous mass by stirring. It was thrown from the combs by an extractor on July 20, and put into cans on Aug. 1. The cans were placed respectively as follows:—one in a dark, dry

cellar, one each under shades of red, yellow, green and blue glass, and the sixth can in full light. On Nov. 8, the honey in the cellar candied to a white. Nov. 22 to Dec. 10, honey under colored shades candied, first in the red, next in the yellow, green and blue; while the honey in full light remained transparent until January, when it soon candied after exposure to intensely cold weather. From my experience an equal temperature would preserve certain kinds of honey, while other kinds would candy under almost any circumstances.

I think that candied honey, instead of being looked upon with disfavor, should be recognized as evidently pure. I hope, however, that the above experiments will lead others to follow up the light theory with beneficial results.

Honey Locust for Hedging.

In reply to a question respecting the honey locust for hedging the *Western Rural* says:

The honey locust, *Gleditschia triacanthus*, is a tall, handsome tree with a spreading top. So far as hardiness is concerned the honey locust is entirely so, far north of the line of hardiness for the Osage Orange. It is not a hedge plant, if by this you mean a plant that may easily be kept within the bounds of an ordinary hedge, but as forming a barrier to stock, it is cited by practical Western horticulturists, among others Mr. A. R. Whitney, of Lee Co., as being among the very best. It is not liable to disease or insect depredations to any considerable extent.

It would take five or six years from the time of transplanting into the hedge-row to make a barrier against cattle, and unless good care was given it, longer.

Plant the seed by all means in seed beds as is practiced with Osage Orange and transplant at one year old, cutting the plant back to a height of six inches when dug for putting into the hedge-row.

Before the Legislature.

The Michigan Bee-Keepers' Association is before the Legislature of Michigan, with the following memorial:

To the Honorable, the Legislature of the State of Michigan: The Michigan Bee-Keepers' Association would respectfully represent that they have been organized and in successful operation for the past 7 years, and its proceedings have been published throughout the States and Europe with great credit to the organization and the State of Michigan, and that it has in view the building up, out of comparatively nothing, one of the greatest industries of the State, thereby effecting the perfect crossing and fertilization of our vegetables, grains and fruits, preventing their deterioration and greatly increasing their certainty and productiveness, collecting only the surplus pollen which would fall to the ground and the excessive nectar which otherwise would evaporate into the air, storing it in frames and boxes for use as food, ultimately saving millions of dollars worth of waste product. Your memorialists, therefore ask an appropriation of one thousand dollars to enable them to make an exhibition of Michigan flowers and honey at the Centennial Exposition at Philadelphia in 1876, believing such exhibition would redound to the credit and honor of the State. Said honey to be furnished gratuitously by the members of the Association and finally sold and the proceeds used for printing our annual discussions for gratuitous distribution.

H. E. Bidwell, Pres't.
Herbert A. Burch, Sec'y.
South Haven, Mich., Jan. 20, 1875.

A Chinese Bee.—The Apicultural section of the Entomological Society at its annual meeting in Paris, August, 1874, made many interesting statements. M. Durand Saint-Armand, a government officer in Cochin China, states that that country possesses a bee twice the size of ours, which consequently ought to have a proboscis long enough to extract the honey from red clover, which is known to be very abundant. This bee is found in great numbers all along the coast, in a wild state, in hollow trees, and the natives hunt them for their wax. The extensive forests of this country are leased for the product of wax, which is to be sold to the Chinese. M. Durand Saint-Armand has acquired a certain knowledge of bee culture so to be able, if possible, to domesticate the bee and send them to France. Would it not be well for our bee keepers on the Pacific to investigate this? It has a promising look.—*Country Gentleman.*

☞ One of the last Acts of the late Congress was to double the rates of postage on books, pamphlets and general merchandise. The following from the new law will be interesting to publishers:

That section 8 of the Act approved June 23d, 1874, making appropriations for the service of the Post Office Department for the year ending June 30th, 1875, and for other purposes. "Be and the same is hereby amended as follows: Insert the word "ounce" in lieu of the words "two ounces." Approved March 2d, 1875.

The second semi-annual session of the Michigan Bee-Keeper's Association will be held in Kalamazoo, Mich, May 6th 1875. We earnestly request a full attendance of the members of the association, as matters of vital importance to all engaged in apistical pursuits, will be presented for their consideration. We also extend a cordial invitation to all persons, interested in bee-culture to be present. Remember the time and place—Kalamazoo, May 6th, 1875.

HERBERT A. BURCH Sec'y.
ap12m South Haven, Mich.

Notes and Queries

Are queens wings clipped to prevent them swarming? or to prevent them leaving hives at other times. If queens do not leave at other times, cannot you give some other method that will accomplish this result?

Would you advise attempting to increase from two strong pure Italian stocks to six this season, the object being to increase with honey enough to winter on. Would it be safe to increase further?

CHAS. E. SELKIRK.

Some queens wings are clipped to prevent swarming, but more are marked, we think, to be sure of their being the same one bought. It does not prevent their leaving the hive. They do not seem to realize that they cannot fly and are more liable to be lost if clipped, than if they can manage themselves naturally. We do not clip a queen for any purpose.

We are sure you will find no trouble in increasing from two good colonies to six. To do it surely, however, you would have to feed liberally in the spring and perhaps again during dry weather in August.

Will you tell us if there is any danger of bringing "foul brood" to our aparies, by purchasing queens from Europe as Mr. Bingham and others assert. T.

There may be danger, if the queen is brought from some parts of Europe, but we think foul brood has never existed in Italy. We have never seen a case of this disease in all our experience. All the queens we have received from Europe have been healthy, if alive.

I sent my last letter for publication in the JOURNAL. I think where persons impose on us and take a high price for hybrid queens, they should be exposed, that others may not loose money in the same way.

G. H. WILLIAMS.

There are two sides, to this question. This JOURNAL has not taken upon itself to pass judgment upon others; believing that its columns may be better filled. If we give place to complaints, we must in justice to the other side give explanation, and the door once opened to complaints and excuses, however just, much valuable matter would necessarily be excluded to make room for them.

There is still another reason. The law gives us no right to publish *facts even*, if their tendency is, to injure the business of another. If a suit for libel be brought against us—it would not be sufficient for us to prove that what we had published was the truth. In law "the greater the truth, the greater the libel." If we have ourselves been injured by any one, we have redress in a suit for damages. By no law, human or divine, have *we* been made a judge of the business, even of those who advertize with us. We admit nothing to our columns, known to partake of the nature of a humbug. Though we may not believe all that our advertizers say about their patents—hives or other articles—we learned long ago that all do not think alike on these matters. Others may value what we do not think valuable. We try to give rules and records of experience, and let all judge for themselves. Every one has a right as well as a desire, in bee-keeping, as in other matters, to "prove all things, hold fast that which is good."

Please describe Melliot clover. Is it good for anything but bees?

JOHN H. GUENTHER.

Melliot is good for nothing but honey, unless it may pay to plough it under for mulching. It is the "sweet clover" found in many flower gardens; grows three feet high or more, branching out at the bottom, and remains in bloom nearly all summer.

Is it best to give bees flight before moving them ten miles. They are yet in the cave.

NEWSOM BROS.

It is alwas best to give them a flight before moving them any distance, after taking them from any winter repository.

Having a friend going to Europe I intend to send for some bees. Can you tell me how many Mr. Dadant brought home alive on his second trip to Europe? J. C. B.

Mr. Dadant did not go to Italy the second time as he advertized and expected to do. We are not informed, why he changed his plans. We sent him an empty comb to take with him by his request, and until July, thought he had gone. No doubt unforseen occurances prevented. Last season he imported queens direct but did not go himself.

What is the best way to Spring weak colonies? Is wild rice a good honey plant? What time does it blossom, and how long does it stay in bloom? A. ASPINWALL.

You will find this question partially answered in Seasonable Hints. Be sure your weak colony has a good queen, keep the hive closed, leave no more comb than the few bees can cover—and feed them regularly, all the syrup they will use. We have seen a pint of bees in March with a good queen and two combs changed to a large colony having twelve combs well filled with brood by last of May. Will some one who knows—tell us about wild rice?

Is sugar syrup as good as honey to feed bees; and if so, what grade of sugar is best.?

ELLA.

We prefer sugar to honey, even at the same price. Have always used Coffee A., but Mr. Dale informs us, that a good grade of New Orleans sugar goes farther, and he prefers it, having fed it in quantities with best results.

Voices from among the Hives.

JOHN H. GUENTHER, Theresa, Wis., writes:—"Finding my bees uneasy I gave them water and by this means soon resorted the hives to their quiet condition."

A. SALISBURY, whose directions for wintering bees were given last fall in the JOURNAL, writes:—Out of near 200 swarms of bees I shall not loose one this winter. 56 are on their summer stands, the balance indoors.

B. Y. THORNTON, Knightstown, Ind., writes:—I have received "Money in the Apiary," advertised in the A. B. JOURNAL, and must say it is the poorest thing (the nearest nothing at all) that I ever saw or heard of on bee-culture, or any other subject. Two whole pages devoted to managing an apiary for profit in that miserable little 2x3 pamphlet, the balance all taken from the A. B. JOURNAL. They are certainly *all* cheek to ask 25 cents for such a miserable little advertisement."

JOHN J. WILLIAMS, Bachmanton, Ohio, writes:—"I wish to ask a question. My bees commenced dying last fall, in the warm spell after severe cold for several weeks. I found many in the bottom of the hive and in the cells dead, but puffed up almost as large as a queen. If I squeeze them they will pop, and the perfume is almost unbearable. On the 22d, of Feb. it was a bright day and the bees had a fly and the snow looked like as though it had red paint thrown on it. This is the first fly for 9 weeks. I winter on the summer stands. In the hives that died there were no brood but plenty of honey. I use Davidson's Patent American Hive, made of pine wood. I don't know if diet has anything to do with it. I hope some one will be able to give me some light on it."

J. P. MOORE, Binghamton, N. Y., writes:—"Bees are wintering finely here, though the winter has been severe. I am using saw-dust pillows this winter, over my bees, and like them much. They are made of heavy old woollen carpet with 2 inches of sawdust for in-doors, and 4 inches for out-doors; use very coarse hemlock sawdust, from a log saw, thoroughly kiln dried. I raise up the pillow at any time and put my hand over the cluster, and find it warm and dry; my out-doors hives are packed with about 6 inches of buckwheat chaff, underneath and on all sides. Some stocks have died in the neighborhood, that were left out in some hives, without any preparation for winter. I think they might have been saved if a portion of their honey had been taken away and a quilt, a straw mat, or a sawdust pillow had been put over them, and the cap filled with straw."

J. D. M., Richland, Wisconsin writes:—"I have 60 swarms in the cellar, some in the American hive. I built a house here about 20 years ago and got my bees from a tree close to the house and saved them when they swarmed."

GEO. PERRY, Peru, Ill., writes:—"I have nine swarms in the cellar, put in the 2nd of Jan. and thus far they seem to be doing well; three of them got uneasy and I gave them a little water; they have quieted down. I am in hopes to set the little prisoners free in a few days."

MILLER WILSON, Meredith, Pa., writes: "My repository worked like a charm this winter. See page 20, Jan. 1874. Potatoes would not have frozen had they been in it. But fully one half of the potatoes is frozen in this country.

Although the weather has been dry I have heard of no bees dying in this vicinity yet."

J. W. MCKINNEY, Camago, Ill., writes: "The same thing spoken of by C. Wellington, in March number of "A. B. J.." was noticed by me last Sept. The bees were on the bloom of the Spanishneedle. The under part of their body was usually daubed with a resinous, sticky, aromatic exudation from the bloom. The bees appeared to be stupified as if badly intoxicated.

I noticed some in the same condition about the mouth of the hives, daubed with this Spanishneedle gummy pollen.

H. E, CURRY, Cincinnati, O., writes:—"I have examined our hives and find them all in good order; some of them have brood in three sheets, they got natural pollen one day, but we have had cold weather since and I am afraid it will be killed. I never had our bees work on flour, as they did this year; they were as crazy after it as they are at robbing in August. We winter out of doors with mats on, and on examination we did not find the slightest trace of mould. The thermometer stood 12 degrees below one day but I need not tell you we have had a very severe winter."

CHAS. SONNE, Sigel, Ill., writes:—"The winter here in Central Illinois was probably as hard as almost anywhere. I wintered on summer stands, 42 hives. 19 of these were in hives which had straw packing on top, on the back and in front. The sides are double inch boards with thick wool paper in between. Of these 8 died, although they had plenty of honey and plenty of bees. The other 23 were in hives which had straw packing as above, but had also straw packing of 4 inches on both sides. Of these none died. Query: Does this show that warm packing saves bees?"

MOSES BAILEY, Wintersett, Iowa, writes:—"Last May I had 12 colonies of bees with queens and 2 without. I increased them to 74 colonies, took 1000 lbs. of honey (ext.) and most of them had sufficient stores left to winter well, but on account of several queens mismating, &c-, (brood hybrids,) I reduced the number down to 42 colonies by sale and uniting colonies, the 42 were set in my cellar Dec. 16th, 1874, and a chance one shows a slight indication of dysentery for a few weeks past. Some colonies appeared thirsty and I gave water two or three times. Some took it eagerly. Shall set them out in 3 or 4 weeks if the weather warms up sufficient to do so."

Correspondence.

For the American Bee Journal.

A Word of Cheer for the Workers.

AN ADDRESS BY FRANK BENTON, OF EDGEFIELD JUNCTION, TENN., BEFORE THE SOUTHERN KENTUCKY BEE-KEEPERS' ASSOCIATION, DEC. 31st. 1874.

It is gratifying to know that, in a time when the country is suffering from a great financial depression, a body of her intelligent citizens will gather to unite in the discussion and dissemination of knowledge concerning a branch of economy, which, with proper attention would add no inconsiderable amount to the wealth of the country. The eight millions of dollars annually produced in the United States through the agency of that industrious insect, the honey bee, is almost a clear gain to the country since their labor saves what would otherwise go to waste, a fact which has been frequently expressed by the sentence: "They work for nothing and board themselves." When we consider that the country could, to say the least, support three times as many bees as are now within her limits, (and that too without decreasing the average yield per hive,) and thus place the annual return from this branch of rural economy at twenty-four millions of dollars, we see the importance of such assemblages as this for the promulgation of all practical knowledge of the habits and best method of managing these sweet creatures, and the "Goddess of Liberty" may well afford to smile at the *honeyed* words dropped by her hardy sons of toil.

There have been three steps in Apiculture which, when compared with the rest of its progress might be termed mighty strides toward perfection: The introduction of the movable-comb hive was the first of these. It is well recognized among progressive bee-keepers that this step has completely revolutionized the keeping of bees. By the use of movable-comb hives the bee-keeper can ascertain at once the exact condition of the interior of every hive and is thus enabled to remedy all accidents which happen in each little community, (for accidents do happen to bees as well as to human beings); he can secure larger yields of honey and in a more saleable form, while rapidly increasing the number of his colonies in a new and safer manner than by the old method; in short, he can regulate the labor of his bees as certainly as he can those of any other domestic animals.

The second stride in apiarian pursuits was the introduction of the beautiful golden-banded Italian bees. Though discovered among the Alps mountains early in the present century they were not brought to this country until 1860, and this date marks the commencement of an important period in the history of bee-culture in the United States, an era of progress. The peaceful disposition of the Italians, their great industry, causing them to accumulate a surplus of honey while common bees are gathering none, their complete defense of their combs against the ravages of the wax-moth larvæ, their disposition to adhere evenly and quietly to the combs when handled, the prolificness of the queens, and their great beauty,—all these are qualities which commend themselves to us, while we cannot find that they are inferior in any respect to the common race of bees. Their introduction has aided in the practical solution of many disputed points in the natural history of the bee. How easy, now, to determine the average length of life of the worker-bee. Just place a purely fertilized Italian queen in place of a common queen in a populous colony. At the expiration of three weeks the last black workers will have hatched, and the yellow-banded Italians will begin to gnaw their way out from their prison-like cells. In a few more weeks none but the gentle race of Italy can be found in the hive. Each little laborer has but a few weeks to live and labor, and then, having literally worn herself out tugging in her loads of bread and nectar-food she bequeathes her accumulated wealth to the support of the generations that come after her and which are to perpetuate the little community through the dreary period intervening between the harvests. Surely here is an example of patience and persevering industry that should not be unheeded by the fretful, the irresolute, and the idle!

Last, but not less justly entitled to rank as one of the mighty strides of modern Apiculture came in 1867, the honey extractor or mellipult as it has been styled,—the result of the inventive genius of Major Von Hruscha of Austria. This machine is simply a tin cylinder in which to revolve the combs and throw the honey from the cells. It is so simple that the inventive American wonders why it was not thought of sooner. By its use two or three times as much pure honey can be obtained from each hive; and many seasons when no surplus can be obtained in boxes a good yield can be secured with the extractor; besides, colonies can be assisted greatly in keeping up their numbers by having the brood combs emptied of honey frequently. Who can say after all this progress that there will not yet be such additional advancement made as will place apiculture in the front rank among rural specialties?

Thanking you most heartily for your kind attention, I close by expressing the hope that, in this—your first meeting you will not, as true Kentuckians forget the motto of your beautiful State: "United, we stand; divided, we fall."

For the American Bee Journal.

Criticism.

In the *Prairie Farmer* of the 13th, Prof. C. V. Riley takes up the cudgel ostensibly, in defence of Dr. Le Baron, State Entomologist of Illinois, because I had briefly criticised the fact of Dr. Le Baron's copyrighting his Fourth Annual Report. My criticism was in the form of an enquiry; and if Dr. Le Baron considered himself aggrieved, he is doubtless abundantly able to defend himself. But the latter part of Prof. Riley's communication, shows the animus which prompted it. It was to say a word for Prof. C. V. Riley, and to vent his spite against me, for giving a plain and correct statement of facts, albeit said facts were not especial-

ly flattering to him; forgetful of the f ct "that in a Republican form of governm it is one of our inalienable rights to discuss every question affecting our welfare."

Now for Prof. Riley's investigations in the department of entomological research, in so far as they have been beneficial to horticulture or agriculture, or to any of the human family, in any of the pursuits of life; he has my thanks and my gratitude. For his language and logic in his communication he has my contempt. He says, "she puts language into my mouth which I was never guilty of, (*i. e.*, misquoted him) and otherwise falsifies my statements." How otherwise could I falsify his statements? And again, "I ask the readers of the *Prairie Farmer*, who are also readers of the AMERICAN BEE JOURNAL, to consider what I have said on that subject over my own name rather than the garbled account in question."

Where "over" or under his own name, has Prof. Riley given an account of what he said on that subject, (the relation of the honey bee to horticulture) at the last meeting of the Illinois State Horticultural Society? What he may have said at any other time, or place, in the New York *Tribune* or elsewhere, "over his own name," is no proof of what he said, or did not say at Peoria. If Prof. Riley has said at a Methodist class meeting that "milk is good for babes," is that proof that he has not said at any other time or place that "oysters and champaigne are fine." Thus much for his logic. Now for the truthfulness of his language. That he did express himself substantially as quoted I affirm; and for the correctness of my assertion refer to Mr. Dunlap, or to Mr. Gaston, who took part in the discussion, to Dr. Hull, and especially to Mr. O. L. Barler, who I believe reported the proceedings of the Society; and finally to any member of the Society who was present. And furthermore, that as far as his remarks were pertinent to the question under consideration, (whether the honey bee was the friend or enemy of horticulture) I believe my report was a verbatim one.

Now this very polite and courteous professor says that I gave a "garbled account, misconstrue and falsify," now I shall not say that his statements are as far removed from the truth as he is from being a gentleman, and leave the public to judge the distance; but think if this polished and urbane professor can stand such language and such logic, I, being a woman, certainly can. If I were a man, I should simply say C. V. Riley is a——; gentle reader, you know how it is yourself. MRS. L. HARRISON.

Peoria, Ill.

For the American Bee Journal.

Three Hundred Years Ago.

My object in writing now is to give some extracts from a book on bees published nearly 300 years ago, and through it I will endeavor to show that with all our boasted knowledge of the bee we know but little more than was known at that time. The only difference is that but few knew anything of the habits of the bee, to-day many know it. The book is entitled "A Theatre of Political Flying Insects," wherein the nature, worth, work, wonder and right-ordering of the bee is discovered and described together with Scriptural and moral meditations added. Written and published by Samuel Purchas, M. A., in the year of our Lord, 1600. The moral meditations I would like to give the advice, would be of benefit to our more modern bee-keepers and there would be less backbiting, ill-feeling and desire to over-reach each other. S. Purchas speaks of consulting writings on the bee written many years before. His book is dedicated to Lord Robert, Earl of Warwick. I shall only give extracts that relate to the bee so that you can form an idea of his bee knowledge and compare it with yours.

In regard to queens, he says: If the queen bee should fall from a swarm through weakness her attendants will remain with her and starve with her rather than forsake her. The queen bee is a very amiable creature, of a bright color and more transparent than other bees, she is somewhat yellow about the belly and on her legs inclining to a golden color, and the color intimates the princely nature and royal blood (could this be the Italian?). If a queen bee miscarry in the hive, or by flying forth for recreation or impregnation, or otherwise stirreth not forth, come in some mischance, all her attendants are in mourning and confusion.

The queen is a royal creature, therefore she works not, it is beneath her dignity to drudge and toil. Though she has a sting yet rather an ensign of power than an instrument of revenge, for she never useth it. There is a magnetical attractive force in the queen bee, so that what the loadstone is to iron so is she to the rest of the bees—where she is, so will they be.

In regard to drones, he says: Bees when they are weary of the drones and have no further use for them, and fearing future want by their gormandising, show their dislike by molesting them. If this will not cause them to depart, set upon them and slay them. Drones labor not, but to the eye are goodly creatures, fairer and larger than worker bees, make great noise and are vain glorious. Observe them as often as you will and you will never find them carefully endeavoring their present or future good. *Nil dignum tants sonitu.*

As to workers, he says: Worker bees are laborious in their youth and yet are not idle in their old age. Even if she findeth not honey in one flower goeth she to another. They feed on honey, which over liberally eaten produceth cholera. No wonder they are furious and choleric creatures. If confined closely they will gnaw away the impediment, though they have ease and air.

The field wherein bees feed is not a whit less from their feeding, but that oxen and sheep may grow fat. Bees can with facility dart out their stings, but have no power to withdraw them, except from a dead body, which she taketh no hurt, but in a live body she looseth both sting and life. It is a fabulous conceit that a bee when she looseth her sting becomes a drone, for it is not so, she dies. Bees though they be engaged in a furious strife with other insects wreck their spite by biting, and only when transposed with rage will they use their sting, only to their own ruin and distruction. She may trouble awhile with her buzzing but can do no further hurt. Bees smelling a field of cole-seed though three miles away will fly directly thither and be not tempted with other blossoms on the way.

As to the habits and creation of bees, he says: Many have troubled themselves as to the several kinds of working bees, whereas of working bees in this part of the world there is but one sort, and all bees agree, if not in size and color, yet certainly in operations, so that our bees and bees in Spain, and other parts of the world make all their combs with hexagonal like forms. Bees in frost are torpid, and the little worm from the egg after a short life of a week, stirs not and feeds not but lie dead and entombed in the cell it was bred, yet in a few days it will revive and appear a far more noble creature than it was before. The first life of a bee is scarcely worthy to be called life.—*Vita est non vitalis.* She is in a narrow cell without power, neither can she hear, but awaiteth to be fed.

The grub or worm in its first state of life is a rude creature, but when it is shut up to become transmuted then it is for a time a formless lump, without any beauty, but wait a few days and it will come forth in all its beauty. The young bees as soon as they have passed their second birth are winged and strengthened to fly and presently do fall to work and imitate the elder bees.

In swarming, he says: If a swarm come forth they await with impatience for the queen, go with her, encircle and protect her and where she goeth, so will they go. If a swarm be checked and stunted with bad weather after it is hived, or late in the year, the bees will be desperate and gather nothing to purpose, for they are out of hope to get enough for their winter store. Some hives will live two or three years and cast not a swarm, or if they do very late then 10 to 1 they miscarry and die, both the old stock and the swarm too. Now the best way to preserve such a stock is timely to drive it into an empty hive, and the bees being many will provide for themselves, if not they may be fed sufficiently against winter, and swarm seasonably another year. When bees are most angry in their swarming, or fighting, cast a little sand or water among them and they are presently quiet. Bees when they go forth in a swarm will sometimes be provided of a habitation beforehand. A hollow tree or an old hive, they will at once purge it of dead bees, rotton combs and stinking substances, for bees are neat, sweet and cleanly creatures, abhorring stinking places.

Let a swarm be hived ever so carefully and the hive prepared and shadowed from the sun, yet if the queen be wanting, there is nothing but discontent and confusion till she be found. Bees that are new driven or go forth in a swarm, even if they be few, will labor more diligently than other hives that are well provided for. The bee master on all occasions of want will feed his bees but never the drones. Let a swarm remain at the place where it was hived for a few days and then remove it to a new standing, yet for 2 or 3 days if they fly a brood will repair with their labors to the first place. Bees in violent frosts if they have not a few rays of sunshine become diseased from their inability to discharge their foulness, except in the hive. Bees will not continue well without a leader therefore if a union of swarms or castings be made the bees will then dethrone all queens but one.

Many, observing bees flying into their hives suppose them best furnished when they see them go home laden on their thighs, and think the others idle, whereas the others are best laden being well freighted with honey. Plundering bees will spoil and rob their neighbors, but if they find sentenels before the posts to question and oppose them, and if numerous will through treachery work their destruction.

Bees extract but little honey in July but if a honey dew falls they in a short space are largely replenished with sweets. Bees, as many other creatures, have wit enough to find out remedies for the cure of their maladies. If they be near the sea, delightfully gather from flowers in salt marshes, if they be remote from the sea they drink water from sinks and saw-pits and extract the nitous saltness therefrom.

Bees when they are contented give forth a delightful hum but if acting illegally give forth an uncertain noise like an instrument out of tune. Bees when they have filled themselves with water cannot gather honey till they have vomited it up. Bees live like soldiers, in camp and have always night and day their scouts and sentinels to keep watch lest their enemies surprise them. Bee masters tell us that the hives that make the most noise are the best ones, and they are also over-diligent to kill all the drones (as they will not only pester but prejudice the hive) and will also feed the bees but never the drones.

A bee sting enters easily and when the bee has flown away the sting works itself deeper, diffusing thereby the venom more strongly. The combs of bees are perpendicular from top to bottom of the hive and so they are long, yet have breadth likewise.

Some cells are filled with bee bread, some with honey, some with brood and others are empty. Mice are hurtful to bees and so are moths but not at all times alike. In the swarms when the bees are lusty and keep constant guard, no hurt will come to them, but when weak, or cold weather benumbs them, they can without hazard rob, plunder and destroy them. The enemies of the church are compared to bees. "Fear not their rage they are bees not lions, they buzz and make great noise, they cannot do what they would but work their own destruction."

The forgoing are but a few extracts from his book. In his preface he advises all cottagers to meet and form societies for discussions on the bee. He would be glad to give them instructions on the bee, as they can be made of great profit.

Mr. Purchas travelled a great deal as he speaks of bees in Spain were he saw and compared them. A BOOK WORM.

For the American Bee Journal.

Wintering Bees in Glass Observatory Hives.

As many Bee-Keepers fail in keeping their bees alive in glass hives over the winter I send you an account of my Improved Glass Observatory revolving bar-frame Hive; the four sides and top of which are composed of layers of glass, and I have kept bees in them for a great number of years all through the winter, and never lost a stock of bees in one of them yet.

My Observatory Hives are kept in an open latticed arbor and are always exposed, winter and summer, to the light and cold, and

are the warmest hives in winter of any kind of hive I have tried, either made of wood or straw. The thermometer in the hives (observations of which have been taken for a number of years, three times each day all the year round) indicate a mean temperature of about 4 degrees in December and January, and 4½ degrees in February, higher than the mean temperature inside my other woods or straw hives.

The bees do the best in these glass hives in winter and summer of any hive I have ever tried, and I have never lost a stock in any of them yet, and fewer bees die during the winter than in any of my other hives. The great success of these glass hives is caused by being made with several layers of glass, with a space of confined air between each, as confined air is the best non-conductor of heat of anything we know; and the reason I adopted this plan was that I noticed the bees (in some hives with a glass side my father got made in 1806) always went the farthest from the glass side in winter.

In 1844 a gentleman went to Russia, and when he returned he told me, that it was so cold there in winter, that in their cotton factories they put double windows, otherwise they could not spin their cotton yarn. I said to myself this is what my hives want, and I tried them with two glasses, which was a great improvement, but I afterwards increased them to four, as I then got three spaces of confined air instead of one, and the result has been most satisfactory.

A great many bee-keepers have tried in this country to keep bees over winter in unicomb hives made of thick wood, and also of glass and they have been placed in green-houses and all other situations where the temperature is kept uniform, but I have not heard of a single stock that did not die before spring, or so many of the bees died that they did no good afterwards.

It seems to be essential for bees to cluster together to survive the winter, and in the unicomb-hive they cannot, as both sides of the combs are exposed to an outer surface.

In November I remove the glass cover of my Observatory hives, and tie one or two folds of blanket over the top of the hive, and never have any dampness in the hives, the outside combs being as free from mould as the centre ones. I leave the blankets on during spring, but in February I put the glass covers on the blankets and make all tight and warm to encourage breeding, and to further stimulate the bees and queen I give each hive about half a pound of sugar syrup each week, taken down through just the number of holes under the bottle, so that the half pound just lasts them a week.

WILLIAM CARR.

Newton Heath Apiary, near Manchester, England, Feb. 12th, 1875.

For the American Bee Journal.

Eccentric.

The March number of the "old reliable" is at hand in good season once more, reminding us of the "long ago" when it used to put in an appearance with the advent of each month so regularly that we could have foretold it without one of "Josh Billings' Almanax." We trust that it may continue to come with equal promptness and regularity, as long as bee culture shall engage the attention of the American people.

We notice several items in our article this month that are not as we intended to have them; but as they are of minor importance it may not be worth while to correct them, especially as we might endanger our *nom de plume* by the attempt. However, we shall endeavor to prevent any errors creeping in the manuscript hereafter.

The article on "Wintering Bees" by our talented editor, while good in many respects, is, it seems to us, a little partial. In speaking of the various means devised to avoid the bad effects of cold and confinement, he does not even allude to flying bees under glass, or in other words, Mr. Bidwell's "hot-bed method." Why? Is it because that proof is lacking as regards its utility? Or is it—well, something else? We are aware that this method has not been entirely successful as practiced by many; still, we think it more than likely the result of non-compliance with the requisite conditions. Mr. Bidwell's reputation for truth and veracity are, we think, above question.

The recent action of our bee conventions seems to puzzle our friend Dadant. We were surprised at what was said at Pittsburgh by several parties in regard to this question. Though those statements have been considerably modified, it still leaves an impression of the doubtful propriety of continuing these importations. The main point in the whole matter is simply this: if Italian bees possess qualities which make them desirable, and these qualities are only fully developed in their native clime, why, we must continue to import. The idea advanced by Mr. Bingham, that we endanger the health of our own apiaries by procuring these queens is, we must think, a little too far fetched, since Mr. Dadant first tests them in his own apiary. On the whole, the moderate price at which Mr. D. now sells imported queens, and the obvious advantage of having stock in its original purity is, we think, an ample inducement to patronize Mr. Dadant. At any rate we shall do so the coming season.

There is one topic which, though of vital importance to those engaged in bee-culture, has received but very little attention as yet, and that is, what are we to do with our honey in the near future? Though our bees have died by the wholesale during the past few winters, and drought has curtailed the secretion of nectar, honey is a drug in most markets, even now. When honey by the thousand tons shall be put on our markets from California, as it seems inevitably to be done, and that at no distant day, it will be no easy task to convert our honey into money. Of course, the demand will increase with the supply; still it seems to us that honey must "come down" in price until it reaches the "bottom." After all, it may be preferable to sell at a lower figure, provided we can do so at a ready cash sale.

At this date (March 6th,—we give it to please friend Argo) reports are coming in "thick and fast" of the great loss of bees. Since many were left out on their summer stands we cannot conceive of other than disastrous results in view of the fearful protracted cold and bitter winds of the present winter. With the mercury ranging from 20 to 40 deg. below zero and almost continual high winds, it would be surprising

indeed if bees could winter out unprotected. Well, bee-keepers like all other people must live and learn, we suppose, even if it be at the expense of a dear bought experience; at least, so thinks ECCENTRIC.

For the American Bee Journal.

Adulterators of Honey.

In the JOURNAL, Page 35, No. 2, I see Mr. Dadant comes out to defend the adulterers of honey and makes some grave mistakes, but I do not believe him to do so intentionally, yet such mistakes bring serious injury. If I was in the business of selling bogus honey I should not ask any better defense for my trade than this one. He also condemns the members of the N. A. Society for wanting a means to prevent honey from crystalizing, granulating or candying. There are two motives behind this, if I knew which one then I should reply very plainly. He asks "how can you prove their culpability if you don't know the means of detecting the adulteration. I will let in the light from the "Old Keystone" from the hill top that it may be seen a far off, presently. Will some one tell us, was the honey that C. Dadant & Son took through Quincy, Ill., not long since, all candied if not, *it was spurious?* He asks that the Journals informs their readers that the best test is candying. That means then, that we cannot sell our honey until cold weather, so that it may candy, to prove its purity. That idea is absurd, but he admits it may be liquid from June to December, but from December to June they can with absolute certainty declare it sophisticated honey or that which has been boiled and lost its flavor.

I would inform the gentleman that we are Americans and not Frenchmen and do not need go to France for candyed honey nor immortality; proud America can eat her virgin honey and boast of her morality. Please do not go to circulating such errors in our papers.

Now Bee-Keepers look out, for if such a test is adopted we would not get as much good honey as we do at the present time, mixed with glucose, we do get some now but would not find any soon.

I will note Mr. Dadant's scientific points which are not sustained and pass on to give the subject a true scientific ventilation and leave all your readers to decide if the points are well taken. His statements are: Honey granulates; sugar syrup does not granulate but crystalizes. Honey candies because it is ——sugar, which granulates and does not crystalize. Sugar syrup which is made from cane sugar does not granulate but crystalizes.

We reply pointedly, that these statements above named may have exception, but in their relation as they exist in commerce are false.

HONEY.—A liquid prepared by *apis mellifica*. Honey exists already in the plant or flower of the same, and it is certain that the nectaries of flowers contains a saccharine matter, which is extracted by the insects. The character and flavor of the honey, are very much affected by the nature of the plants which predominate in the vicinity of the hive; still, it probably undergoes a change in the organs of the bee; as the saccharine matter of the nectaries, so far as it has been possible to examine it, wants some of the characteristics of honey.

The finest honey is that which is extracted from new comb and if from a hive that has not swarmed it is called *virgin honey*.

In a primary state, (and as it always exists in a healthy colony) honey is fluid; but, in being kept, it is apt to form a crystaline deposit, and ultimately converted into a soft granular mass. Its color is white, but sometimes of a brown, or redish tinge. It has a peculiar agreeable odor, depending somewhat on the flowers from which it was collected, and a very sweet taste, a feeble aromatic taste followed by a prickly or sense of acrimony in the fancies. Its specific gravity greatly varies in the early part of the season but in December (in the colony) its specific gravity is about 1.333, (Duncan). Cold water dissolves it readily. Alchol with less facility. It contains *crystalizable* sugar analagous to grape sugar, and according to MR. SANBORN, two other kinds of sugar, one of which is changed by acids: the other is not. The first of these two sugars are not always present, as it is behind, that in time is changed by acids in granular sugar. It is found abundantly in honey taken from the comb. The second is found to be similar to the uncrystalizable sugar produced by the re-action of acids on cane sugar being identical with it in composition, and incapable of crystalizing and very sentitive to alkalies. But it is distinguished by the *impossibility* of converting it into *granular sugar*, and having twice the rotatory power of uncrystalizable sugar. Crystalizable sugar may be obtained by treating candied honey with a small quantity of alcohol, which when expressed takes along with it the other ingredients, leaving the crystals nearly untouched. Same results may be obtained with carbonate of lime.

SUGAR.—Saccharum abum, refined sugar, sugar cane, contains about 10 per cent of sugar, of which there exists from 3 to 4 per cent of uncrystalizable sugar, and from 6 to 7 per cent of crystalizable. The juice from sugar cane averages about 50 per cent and is at once treated with time to neutralize or separate the gluten and album. But it is useless to treat of sugar any more than to give the tests for the detection of it in honey, and will pass it to the tests.

Its specific gravity is 1. 6. dissolves in ⅓ its weight of cold water. An aqueous solution of sugar when in a warm place, has the property of corroding iron partly immersed in it, and the solution itself, become impregnated with protoxide of iron and of a deep brown-red color, a similar effect is produced on lead, but zinc and copper are but slightly acted on. Sugar is nearly insoluable in alcohol, but will in four times its weight of boiling alcohol, sp. gr. 83.

Cane sugar may be distinguished from grape sugar or honey by Tromer's test. If a solution of sulphate of copper and potassa be mixed with cane sugar, in excess, a deep-blue liquid is obtained, on being headed, lets fall after a time, a little red powder. A solution of grape sugar (or glucose) similarly tested, yields, when heated a copious green precipitate, which readily changes to scarlet, eventually to dark-red. Chemically pure muriatic acid, or sulphuric acid chars cane sugar. Cane sugar is often (crush sugar) adulterated with starch and may be detected by adding a solution of ulide of Potash or tincture of iodine to a solution of honey or

sugar, which turns the composition of sugar ir C. 12, H. 11, O. 11.

GLUCOSE.—Glucose or grape sugar may be obtained in various ways, but is principally from grapes by the French and is found in commerce in the liquid and solid state. The liquid has a taste very similar to that of honey which has been candied and the solid or grape sugar has the appearance and taste of candied honey, and in very cold weather is difficult of detection, except the sugar be more dry, and of a taste more like that of fruits, but if the honey be principally from fruits in September and then candied, the distinction is scarcely noticeable. Like honey or cane sugar it is susceptible of being crystalized or granulated. Honey contains one part in four of glucose, cane sugar (as obtained from the juice) three parts in ten. Glucose may be obtained from honey by placing crystalized honey on a porous tile, dissolving what remains on the surface with cold alcohol and crystalizing. It is obtained from concentrated syrup, and is in the form of crystaline grains, but crystalized from alcoholic solution it has the shape of square tables or cubes.

It is less sweet than cane sugar or honey. It is also less soluable in water and much more soluable in alcohol, its sp: gr: 1.386.

Strong mineral acids hardly act on grape sugar, but destroy cane sugar with facility. On the other hand alkalies destroy grape sugar and form compounds with cane sugar. See cane sugar in this article for further tests for glucose.

The composition of glucose is C. 12, H. 12, O. 12.

Therefore, any intelligent reader will soon see that Mr. Dadant's test is not at all to be depended upon, even if the honey be candied.

DR. W. B. RUSH.

Simpson's Store, Pa.

North-Eastern B. K. Association.

The fifth annual meeting of this Association was held at the Butterfield House, Utica, N. Y., Feb. 3d and 4th, 1875, President Quinby in the chair.

The minutes of the last annual convention were read by Secretary Nellis, and approved.

The chair was then filled by Vice-President Alexander, of Camden. Mr. Quinby having temporarily retired.

A report was received and approved from the treasurer, Capt. Hetherington. Some time was then devoted to the enrollment of members.

A brief opening address was delivered by President Quinby. The speaker alluded to the prospects for the present meeting. He suggested in particular the education of the people to do away with the popular and foolish fear of being stung by the insects. The president spoke of the newly-found method of adulterating honey, and suggested that each honey producer place a distinctive mark upon his product which would bear assurance of its genuineness.

The election of officers was next in the order of business, and an informal ballot was taken for president. A unanimous vote was given to Mr. Quinby.

He declined to again hold the office, however, and upon motion, the election of officers was deferred and the correspondence of the Association was read.

The first essay presented to the convention was written by Prof. A. J. Cook, of Lansing Agricultural College, Michigan. It was read by Secy. Nellis, as follows:

INSECT RESPIRATION AND BEE-CULTURE.

It is a curious fact, often wondered at, that no two human faces, nay more, no two blades of grass are exactly alike. Nor is it less wonderful that each class of the various branches of the animal kingdom, has its own peculiar methods of developing structure which implies peculiar organs, with special arrangement and adaption. Hence in the articulate branch, we find that the insect class, including the myriapods (thousand-legged worms); arachnids (spiders), and the higher six-legged insects possess a peculiar breathing apparatus. They, unlike those higher animals, whose physiology is more familiar to us, do not have a common mouth for the reception of both food and air, nor yet specialized lungs, where air and blood come in near contact, that the latter may be purified. But in this class there are always more than one, often several breathing mouths, which are always situated along the sides of the body. These breathing mouths are plainly visable in the so-called tomato worm, the larva of the tomato moth, which openings looking like periods along the sides of the insect, must be familiar to you all, though you may never have know their function.

The breathing mouths may be seen by close examination along the sides of the larvae of bees, and even in the mature bee, the larger spiracles under the wings upon the side of the thorax, may be discovered by a little care in scraping off the hairs. As in the human nose there are hairs, to intercept the dust particles, so too these insect spiracles are not without even a more complicated arrangement, consisting of a sort of double value to effect the same end. These spiracles or breathing mouths connect with two long tubes, running either side of the body, which in rapid flying insects, as our bees, often expand into very large vesicles, whose supposed function is to permit a decrease in the specific gravity of the insect which is effected by filling these vesicles with air.

These lateral tubes branch into an indefinate number of lesser tubes which ramify to every part of the insect. These tubes or tracheæ, as they are technically called, are composed of a spiral thread, and as microscopic preparations are very beautiful, looking as if a gold thread had been wound closely around different sized wires, after which the wires were withdrawn. The number of these tubes is marvelous, and I am sure that I show my classes in entomology, no microscopic specimen which interests them more than a preparation of these tracheæ which I took from a bee. The specimen not larger than a 3ct. silver piece, with a power of two hundred diameters, shows innumerable tubes, seeming to form a most intricate net-work. These minute air tubes extend to every part from the tip of the antennæ to the very peripnery of the legs and wings. Thus these air tubes, which are analagous with the lungs of our higher animals instead of being localized, or confined to a special part, extend everywhere, hence the blood in insects needs not to convey the oxygen of the air to the various tissues as in higher animals, for the oxygen is

everywhere ready to be taken up by the blood, which as is generally believed does not circulate in special tubes, but penetrates everywhere among the organs, passing through the interstices, and everywhere bathing this labyrinth of tracheæ or air tubes. Even the veins of the wings contain each its tracheæ around which the nutritive fluid passes freely. It is a demonstrated fact that among higher animals, it is the function of the red globules of the blood to convey the oxygen, as we also know that it is the iron contained in the hematine of these same globules which gives the blood its characteristic color. Thus we understand why in insects, when the oxygen needs no transportation, there is an almost entire absence of globules in the blood, as also why their blood is white or yellow instead of red.

It was stated above that this tracheal arrangement of insects, was analagous to the lungs of higher animals. Yet there is a marked difference, which it is well to point out. The lungs are localized organs, doing their special work for the whole body, and are doubtless none to large for that purpose, hence could we get at them, and even lacerate them without harm to the body, still I think all physicians and physiologists would hold that even a limited slicing off of these organs would injure health. I suppose that all physicians would hold that even slight phthisis would affect the general health, and that our State boards of health would labor most diligently to remove any condition in nature or domestic life, which had the faintest tendency to obstruct the free action of these important organs.

But with insects the case is far different. Each organ, or wing, or leg, has its special trachæ, whose only function is to minister to said organ. Now if the organ is an effete appendage, its removal carrying with it the air tubes does no harm. Nay more, is a benefit, as the slight nourishment which it, even if inactive, appropriated, is saved to minister to useful organs. Who would say that the amputation of a leg or arm, would entail perpetual ill-health, because forsooth the blood vessels, whose function it is to carry the blood, were removed? We all know that the vessels served the member removed alone, and the member gone, the vessels are no longer needed. So too with the insect member—it gone, the air tubes, could they remain, would be in the condition of Othello.

That this reasoning is correct is shown in the life history of the common ants (formicidæ), and the white ants (termitida) which bite off their queen's wings after the mating is over. This is done to protect against the roving proclivities of her royal highness. Are we quick to learn, if a similar need does not beget a like operation in our own management?

The history of these ants also shows that there is little danger from hereditary tendencies, as we never see virgin queen ants void of wings. Else we might pause in alarm since Mrs. Tupper and her followers have failed to convince the general public that fertilization in confinement is practicable.

Hence, we see that a thorough understanding of the anatomy and physiology of the respiratory apparatus of insects will preclude Gen. Adair's nervousness as regards clipping queen's wings, from becoming contagious.

I do not wish to be understood as committing myself in favor of indiscriminate clipping, for I readily concede that arguments can be advanced on the plea of beauty, and danger of losing valuable queens in time of swarming. Yet I do hold that the queen receives no physical injury, as proved both by science and experience, and that it is a valuable auxiliary to those apiarists who are wise to understand its dangers and advantages.

Insects, in common with many animals much higher in the scale of animal life, possess that strange power to hibernate during cold weather, at which time they seem to be on the "dead line," just between life and death. In this condition the vital processes are held in almost entire suspense. No food is taken, the blood moves very feebly, and little oxygen is required. The condition is something like profound sleep. As there is no exertion or exhaustion, and the breaking down of tissues almost cease, while no doubt there is a slow but continuous recuperation of strength and energy. Now, this being the case, it seems highly probable, aye, almost certain, that in the interims of productive exertion the more protracted the hibernation, the better the condition of the animal.

Now does it not hold to reason that if we secure the best conditions for wintering, those which will ensure persistent hibernation, as indicated by the most perfect quiet, our bees will need scarce any air, and hence no ventilation either upper or lower. Reason proclaims this as a fact. My experience sustains it. I have had colonies surrounded by snow the winter through, with hives sealed with propolis above, and the entrance below frozen solid with ice, and in this condition from November till April, come out in spring as bright and beautiful as if only restful sleep had visited them, with scarce any dead bees, and hardly any consumption of honey. Hence I believe we may conclude from our study of respiration among insects, first, that the destruction of trachæ will of itself produce no harm; that the only harm will come through the loss of the organ. And, second, that if bees are in condition to winter best, the respiratory action is at the extreme minimum, and hence we need take no pains to arrange for ventilation.

Conclusion from second inference.

This being granted, what more important problem awaits solution than a method of wintering, which insures the most perfect hibernation. How can we arrange to keep our bees always at the proper temperature?

Then followed an essay written by H. A Burch, of South Haven, Mich., concerning

FACTS AND FANCIES OF APICULTURE.—LETTER TO THE NORTH-EASTERN BEE-KEEPERS' ASSOCIATION.

Gentlemen:—By request of your worthy secretary I will present you, though in a necessarily hurried manner, a few thoughts on the subject of apiculture.

While recognizing the importance of the work which bee-keepers' conventions are aiming to accomplish, and appreciating the great good they have already accomplished, and being anxious that their field of usefulness may be greatly extended, it seems to us that a consideration of this subject is one which might result in good to us all. In reviewing the history of apiculture in America for the past decade, we find much to encourage us in our endeavors to establish our pursuit upon a permanent, scientific basis. While this is the case, we cannot deny that there is also very much that is to be regretted, much that mars the otherwise fair history of bee-culture. He who has attentively read our various bee journals cannot have failed to note the spirit of much of their contents as being prejudicial to our interests. How many of us have, with a sort of boyish impetuosity, *urged* people to engage in bee-culture. To the man broken down in health; the man whose pocket book was empty; he who had failed in other callings; those who were dissatisfied with the slow but sure accumulations of agriculture or mechanical trades; to all these have we pointed out apiculture, as the one sure pathway that leads to wealth and

happiness. In doing this, we have ignored the fact that all men are specially suited to some particular calling; that to make this occupation of bee-keeping successful, he who engages in it must, by nature, be adapted to its requirements, in some measure at least; that it requires money, brains and muscle to conquer obstacles and achieve success, as in other pursuits.

We have too often portrayed a path all strewn with roses without thorns; all sunshine and no storm; a pursuit that embodies the very essence of earthly happiness with none of its alloy. As if this were not enough, we have descended from the airy realms of imagination to life's every day level, and with all the fascination of a romance, portrayed the achievements of a Grimm, a Harbison and a Hetherington, in "honey gathering rapidly," forgetting that where one man has been thus successful, a thousand have failed.

Gentlemen, this is no overdrawn picture. Thousands of persons in this country will tell you that it is only too true. How many men who were urged into the keeping of bees a few years ago, and who have lost all during the past two or three winters when bee life "took wings and flew away," we know not. We do know that the number has been by far too many, and that it has been to our injury, bringing our fair calling into disrepute in many sections. We have been made to realize this most forcibly in receiving numerous letters from parties stating that they engaged in bee-culture by our own and the advice of others, given in bee journals, and had lost all.

While pleading guilty to some extent, in this respect, we have resolved to avoid this error in future, and make amends as best we may, by detailing that which may contribute to the success of those already engaged in apicultural pursuits. A few suggestions and we are done.

Let us *cease* to *urge* people to keep bees. How many men who are eminent in their callings or professions were urged to choose as they did? The men succeed who engage in any business from *a love of that business*, possessing talents which qualified them for it. These are the men whose names adorn the annals of every science known to man; the men who have led the advance in every department of the progress and improvement of our modern times; the men whose genius has given an irresistible impetus to our advancing civilization. Rather let us turn our attention to those things which tend to establish our pursit upon a permanent basis; and when we shall have learned how to avoid failure and win success ourselves, it will be ample time to teach those who do not know how to succeed. Until bee-culture is rendered more certain and less precarious, let us cease to relate fabulous tales, which excite the curiosity and superstition of outsiders that must so often end only in chagrin and disappointment.

In behalf of the Michigan Bee-Keepers' Association which we in part represent, we send greeting and best wishes for your continued prosperity, trusting that your future sessions may be mutually present and profitable. Fraternally,

HERBERT A. BURCH.

L. C. Root approved the position, claiming that there should be a careful training and education in the direct care of bees before profit can be assured, and that those who attempt it without the study, may expect to fail.

A letter was read from W. W. Cary, of Mass., taking position that there has been much injury done to the bee-culturist by breeding queens not in accordance with natural laws, because degeneration is the result. A good queen mother should be of good size, large to the chest, trunk somewhat tapered, movements strong and even and by no means of a nervous temperament. A nervous queen is usually short-lived and should not be used as a queen mother.

Mr. Nellis and Mr. Tennant approved the growing of strong queens and of crossing the stock continually.

A letter was read from Dr. W. B. Rush of Penn., stating that he was engaged in a new method for wintering his bees. Capt. Hetherington remarked that it was apparent that Dr. Rush was an investigator, and moved that the secretary be instructed to request him to give the results of his experiments at the next convention. The motion was carried.

Upon motion Prof. A. J. Cook, H. A. Burch, W. W. Cary and W. B. Rush were made honorary members of the Association.

The convention then listened with interest to an address by S. Alexander, of Camden.

IMPORTANCE AND BEST METHOD OF EDUCATING MEN TO THE BEE BUSINESS, TO PREVENT LOSS IN POOR SEASONS.

The eccentric Thoreaux demonstrated by experience, that man may healthily subsist on a very small amount of expense. But the requirements of our modern taste and time, does not regard abstemiousness as virtue, nor denial of the good things of life as condusive to the truest enjoyment.

Honey has, in all ages, been regarded as THE sweet, the nectar of the gods, the synonym of luxury and enjoyment, the highest ideal, "a land flowing with milk and honey," assuming with our savans, that honey is not made, but gathered, and consequently if not gathered, lost, it becomes a question, whether with knowledge adequate to its collection, man is justified in rejecting (which neglecting is) to secure such a valuable article of sustenance, perhaps the most condensed and healthy nutriment in existence. We think we may as well acknowledge that man is mainly, if not exclusively, controlled by self-interest. (The nearest approach to unselfishness I know of is this Society, teaching and inducing others to enter the field as competitors). That being the case, we think to discuss this question of how best to educate our neighbors can best be done by our own success? If we satisfy them that every ten acres is sufficient for one hive, that every hundred acres, admitting that all kept, would give sufficient range for ten hives,

which properly managed and honey extracted, (which for surplus is the most rational method yet devised) would give an average of at least 1,000 lbs.

Besides, every enlightened cultivator knows that fertalizing of all fruits and grains is thereby secured to a much greater extent. When satisfied of these facts, what is the best course for those wishing to engage in the business? I would advise to associate themselves as partners or otherwise, with those who by experience and study had so far mastered the science as to be competent instructors—in one word learn the trade—reach in this way the knowledge which has cost years of study to attain; for it is my humble opinion, and I have kept bees more or less of the time for the last 40 years, that there is no business or occupation that man ever prosecuted or engaged in, that the scientific or right way is so different from the old way as bee-keeping. Having raised it above all chance or luck, except the occurrence of unfavorable seasons, the truly enlightened apiarian will have his stocks in a situation to make available every advantage which may arise. Strong at the proper time, less in numbers when bees can do nothing but eat, recognizing them as active, never being entirely dorment, keeping them in a comfortable and suitable temperature, health and condition; with this knowledge, with this care, I think the very worst seasons will afford as much for the credit side of the ledger, as most other occupations under like discordent circumstances, for I believe that there is no occupation where the same amount of capital, will be subject to less drawbacks.

I would not like to guarantee that ten per cent. of those who engage in apiculture will succeed. No power on earth can make them painstaking, persevering, intelligent and determined. The few will prosper, the rest will fail and scatter the seeds of disease and destruction among their neighbors, and then say bee-keeping is a humbug. I have tried it. A few will persevere, will read, will write, will meet together for the purpose of mutual instruction, and their success and satisfaction at having enhanced the means of enjoyment, secured a pecuniary compensation and opened a wide field for industry and enterprise.

Though the most advanced in the science of apiculture, like the desciples of other science, never expect to reach perfection, yet already much has been attained; and the agitation of thought is the beginning of wisdom, in this as in every other attainable acquisition. Mind, the great motor, will devise methods, recognizing law, not chance, as the true principle, from affects deducing causes, acting in harmony with our industrious pets, making their instincts available for our advantage, and while benefitting ourselves, make the world and its sentient creatures better and happier from our having lived.

Upon motion of Mr. Nellis, Messrs. L. C. Root, J. E. Hetherington and C. C. VanDeusen, were constituted a committee to open a question drawer. It was moved that a committee be appointed to examine the minutes of the North American Bee-Keepers' Society in order to see whether there was anything of which this society should take cognizance. Messrs. J. H. Nellis and N. N. Betsinger were appointed the committee.

The election of officers was then effected with the following result:

President, J. E. Hetherington, Cherry Valley; Vice Presidents, G. B. Seeley, Syracuse, S. Alexander, Camden, I. L. Scofield, Chenango Bridge, N. C. Fisk, Abbotsford, Prov. Quebec, Canada, G. G. Dains, Antwerp, G. H. Byrns, Pratt's Hollow; Secretary, J. H. Nellis, Canajoharie; Treasurer, L. C. Root, Mohawk.

A discussion ensued concerning stings, and assurance was given that with determination and intelligent action and precaution, the danger of stings may be overcome and fear removed.

The Association adjourned until half-past eight o'clock the morning. In the evening an informal meeting was held at the Butterfield House, which was greatly enjoyed by those present.

SECOND DAY.

The second day's meetings began at nine o'clock, Thursday morning, the newly chosen president, Capt. Hetherington, in the chair.

J. H. Nellis, reviewing the proceedings of the North American Bee-Keepers' Society, noted the fact that preparations are being made for a honey display at the Centennial; that the Society adopted strong resolutions denouncing the trade in adulterated honey; that a standing committee was appointed to arrange a system of premiums for Italian queens and full colonies for the next meeting of the Society; that the next place of meeting will be Toledo, Ohio, and the time, the first Wednesday in December, 1875; also that a receipt was read which it was claimed, will prevent syrup or honey from souring or granulating. The receipt is, flavoring extract of lemon, 1 teaspoonful to 1 gallon of syrup or honey.

Mr. Van Deusen moved that the President and Secretary act as a committee on behalf of this Association to do what is necessary toward a representation of the Association and the productions of its industry at the Centennial. The motion was carried.

Considerable doubt was expressed as to the feasibility of the plan and the ability to judge of the merits of bees and queens by their appearance, in order to give premiums or diplomas.

Mr. Root thought the flavoring extract of lemon should be classed among honey adulterations and denounced. Educate the people to know that the granulation of honey is a good sign of its purity.

This seemed to be the general opinion of the Association.

A paper on "Hives" was read by R. Bacon, Esq., of Verona, as follows. We quote the concluding portion:

I do not propose to discuss the merits of this or that hive, such a course would only result in a buzz about my ears, without, as I think, leading to any good results. It is with hives very much as with mowing machines, the farmer often viewing and reviewing the different machines is puzzled to determine which is the best, yet, no doubt, some are preferable to others. So it is with hives. We see in market tall hives, short hives, narrow hives, wide hives, two story hives, one story hives, bar hives and box hives, and many other hives, and men ready to show you the good qualities of one hive over the other, and, when you have gone the rounds, if you have had no practical experience in bee culture or have no judgment of your own, you may be led to believe the poorest hive the best. I would advise the beginner in bee-keeping to use discretion in this matter and take the middle ground. He should choose hives containing frames of convenient size, and safe to handle, for general use. They should not be complicated or costly; they should be capable of construction by any man who is handy with tools. The bee-keeper who does not depend on his bees for support may lay out money for costly and fanciful hives; but the majority of bee-keepers want a cheap, practical hive. I have had rough, cheap hives, and elegant, costly hives, and I have found in every case, all things being equal, bees have done full as well in my rough hives as in the more costly ones. The wants of bees are few, and they are not partial to fancy hives, and all variations from their wants are to benefit or gratify the taste of man. Give the bees a proper-shaped hive, and sufficient amount of room in the hive, and good care, and they will give ample returns. Now, there has been much said and written on what constitutes a proper size and shaped hive. Some contend a hive should be large. Others say twelve inches square is the proper dimensions for a standard hive. Now, my experience with large hives has been anything but satisfactory; they neither gave new swarms nor a large amount of surplus honey. Of course I speak of working these hives for box honey. I think an extractor would show better results, but my experience in the other extreme of hive has been no better. A hive twelve inches square is too small for bees in any place. The swarms from such hives will be small and generally inferior compared with swarms from larger hives. There is but little room for surplus bees, and therefore not a very large amount of honey can be expected, and with the best of care in two or three years, the bees will be gone. Between these two extremes, I believe is found the correct medium. A hive sixteen inches long, twelve inches wide and twelve inches deep, and frames to fit, and have it so constructed that side boxes or extractor can be used, if the season requires it, comes nearer to what I think is the hive for general use. The frames are of convenient size, and safe to handle for either extracting or other uses. The size of the hive is simple for the wants of the bees, either in summer or winter, and I think we will hear of less mortality among the bees wintered in this hive than in our shallow ones, and I think for surplus honey will be satisfactory. Of course I am speaking of raising bees in the North. If we were in the Southern States, no doubt a different hive would be required. I believe it is often the case that localities cause very much contention about the style of hive and the management of bees, and were we to consider from each other's standpoint, and reason accordingly, it would save us many jangles in bee culture.

Mr. Alexander asked whether a frame 12 inches deep and 16 inches long, would sustain the comb.

Mr. Bacon—My frames fit a 16 inch hive and are not more than 14 inches long and less than a foot deep. These held the comb perfectly and had no difficulty in breaking down. I have two reasons for this size. You will get more surplus honey from this depth of hive and the bees winter in them better.

Mr. Hetherington—Combs can be held in the long frames by putting the thorns of the red haw through the frame and into the comb.

Mr. Seely—Do not the bees try to eat out the thorns,

Mr. Hetherington—Yes, but only a trifle. A soft wood pin they will eat at, but one of these thorns with a glossy surface they will trouble very little. The thorns should be put in when the bees are gathering honey in abundance.

Mr. Betsinger—Thorns are good in large frames, but in small frames they are a nuisance. A frame ought to be the size of the brood chamber. This is rarely over nine inches in width. In the large frames the best honey is placed around the brood chamber and this honey is lost to the bee-keepers. I believe that for box honey the frame should be only the size of the brood chamber. For extracting, a larger frame could be used to an advantage.

Mr. Alexander—The insertion of the thorns requires time and trouble. What I wish to gain is a frame which will hold the comb without them. Mr. Bacon says his size will do this. Mrs. Tupper recommends twelve inches square. If it can be lengthened to 14 or 15 inches it will be a great advantage. It seems to me that a shallow hive like Mr. Betsinger's is inconvenient and not good for wintering.

A. L. Fish—Has there ever been a bead placed on the inner side of the frame to hold the comb steady. Would this be practical?

Mr. Root said experiments had been made in that direction, but they had not beeen found practical.

Mr. Nellis wished to know how many frames could be spread laterally to the best advantage in extracting.

L. C. Root—I would not have more than twenty-four frames in any hive. The queen is apt to move to one side, and the bees on the other side thinking they have no queen will proceed to rear one. I believe that the two-story arrangement, getting the frames into as near a spherical position as possible, is natural and best. If I have twenty-four frames I would have twelve above and twelve below.

A. L. Fish—A queen will work in the warmest part of the hive. I find that in a sixteen-frame hive, when a new swarm is put in, it is a good plan to put in a center board, confining the swarm at first to eight frames. If they afterward require

more room the center board may be removed.

Edward J. Wickson, of the Utica *Herald*, addressed the convention upon the commercial aspects of the industry. In closing, Mr. Wickson made the following reference to a subject of great importance, both to honey producers and consumers. He said:

Doubtless one of the most vital questions connected with the marketing of honey is called forth by the effort, which is now being made by unprincipaled men, to sell the people that which is not honey. The article which they falsely offer as honey is very inferior, and one who is acquainted with the genuine article would not be misled by it, even if it had a honey label on the exterior and a comb inside. But the very ignorance of the people generally of what good honey is, affords an opportunity for the introduction of this spurious article. It is in the hands of shrewd, unscrupulous men, and they spare no effort in pushing it forward, because there is great profit involved in it. As it now appears, the people will become educated in bad honey much faster than in the genuine delicious product of the bee. This will be fatal not only because it will supplant the legitimate demand for the real article, but because of its inferiority it will lead them to look with aversion upon the very name. A land flowing with milk and glucose would not have led the Israelites through the wilderness nor will a copious dosing with glucose lead modern people to esteem very highly the historic sweets of Canaan. The whole matter is exceedingly unfortunate not to say criminal, and bee-keepers should prepare to meet and battle against its advance at every point. It seems to me no stronger showing could be made than by securing an accurate exhibition of the fraud, such as a skillful chemist might make by ascertaining the exact difference between the genuine product of the bee and this substance which can be artificially produced from a number of worthless sources. So long as the article they offer is not positively harmful, I can not see that there is any opportunity to meet it with a prohibitory law, but if there is any virtue in efforts to inform people of the imposition practiced upon them; if there is any effect in a square, generous exposure of these gentlemen, let them have it at the hand of this association which is formed in the interest of the legitimate production and in the promotion of a growing agricultural industry.

I think this convention owes it to the industry to take immediate steps to meet the advance of this specious fraud. First, we shou d know more about what it is and in what respect the artificial differs from the genuine. It has come upon us suddenly. It seems to me that we could act more wisely after gaining fuller information. I would suggest, Mr. President, that first this convention adopt some expression of a general nature denouncing the attempt to defraud and calling upon people to beware of being imposed upon. Then I would suggest that a committee of your leading bee-keepers be appointed to study the question during the coming year, to gain all possible information concerning its exact quality of material, and who is engaged in spreading it over the country. In order that next year, after listening to a full report of the committee, we may be prepared to act intelligently and effectively against the imposition in such way as the wisdom of the convention may indicate.

Upon motion of Mr. Nellis, the association heartily approved the action taken by the North American Bee-Keepers' Society concerning the introduction of spurious honey. After much discussion and upon motion of Mr. Alexander, the following gentleman were appointed to present the fact of adulteration to the Legislature, and ask that an act be passed requiring a label, "pure honey," to be placed upon all packages of the genuine article, and making it a misdemeanor to affix the name to a spurious article. The committee are as follows: J. E. Hetherington, J. H. Nellis, G. G. Dains, M. Quinby, E. J. Wickson.

A short discussion concerning wintering bees ensued. Mr. Root would winter bees in a place where they would be as free as possible from out-door influences. The temperature should be as little below 50 degrees as possible. There should be perfect quiet.

A. L. Fish—I built a bee house with an air chamber in the walls twelve inches wide. Overhead the space was packed with fine saw-dust and shavings. To overcome this I covered the floor with gravel and cement. I am not troubled with moisture as much as formerly, but still there is too much. I think some absorbent can be placed above to absorb this moisture as it rises. I think of trying a coating of loose straw. I can control temperature until June, if necessary; but how to get rid of the excess of moisture which comes from the exhalations of the bees has been a puzzle.

Mr. Bacon—I have used cut straw for this purpose with excellent results. It is contained in a box with a cloth bottom, and this rests over the frames in which the bees are.

Mr. Betsinger described a way he had devised of giving his bees a fly under glass. He built a bee house, in which each two hives sit in a little stall by themselves with a little space in front of each hive. The exterior of each stall is a little window, and about three times during the winter he admits the sunlight, and the bees take a fly in the stall. He intends next season to encase all his hives in the stalls. The cost of the house is a dollar a hive.

Mr. Bacon told of a hot-bed which he made in which to fly his bees. He had tried it once with one hive. The bees had a fly. They were left in the hot-bed all day and over night. Altogether, after having this long time in the air, there were found but three table-spoonfuls of dead bees. Mr. Bacon believes the hot-bed good for giving a hive which might have the dysentery a chance to fly and recover. He does not believe that it can be recommended as yet for general use.

AFTERNOON SESSION.

One of the most interesting exercises of the convention was the "question drawer," which was expounded by Mr. Van Deusen, with the aid of Capt. Hether-

ington and Mr. L. C. Root. These questions and replies are of such practical value to the bee-keeper that we print this part of the proceedings verbatim. Much discussion was intermingled, but nothing of importance was elicted aside from the answers as given here.

Question. Is there any profit in buckwheat honey? Answer. Yes.

Q. Can brood be reared successfully in March and April? A. It is best to have no brood started until the weather is sufficiently warm and settled to enable them to start a full brood. The presence of a sufficient amount of pollen must be assured.

Q. What effect has the shape and size of the hive on freezing or on the amount of honey stored? A. Very little provided they have plenty of accessible room and the proper temperature is maintained in the hive.

Q. The best mode of caring for bees after they are set out in spring and before the honey harvest? A. Feed and keep warm.

Q. Will bees store enough more honey in boxes with communications from box to box to pay the extra trouble, than to have the boxes separate? A. Yes, in small boxes, but not in large.

Q. How many swarms should be kept in one yard? A. This depends upon the quantity of honey-producing plants; from 50 to 100 swarms.

Q. What is the best size of the brood department? A. Let it vary according to the quantity of bees.

Q. About what amount of honey is sold in New York city, yearly? A.—About 400,000 lbs.

Q. What is the most suitable package to put extracted honey in for market? A. This depends upon the market in which it is to be sold. In some cases it sells best in bulk or by the pound net weight; in other cases in glass jars.

Q. What is the proper thickness for a single comb in a box? A. 2 to 2¼ inches.

Q. How near to the ground ought hives to be placed during the summer. A. 4 or 5 inches.

Q. Will using the extractor on comb containing eggs or larvæ produce any injury; if so, at what time most? A.—There is no injury unless larvæ are thrown from the cells by too rapid motion.

Q. Is it advisable to undertake to Italianize your apiary when you are surrounded by black bees? A. It certainly is, if in a locality that produces much white honey.

Q. How long from the time the eggs are deposited in worker's cells before it cannot be changed to a queen cell? A.—Would not use it older than the third day after hatching.

Q. If a queen's wing is clipped about half off by a trusty, experienced hand, is there any injury; if any, what, and in what way? A. There is no injury.

Q. Making an examination of my stocks in January, I found some stocks from which the honey was leaking. What is the reason? A. This condition is found only in hives that have been so exposed to the cold as to crack the combs with frost—or in hives that are so poorly ventilated as to retain the moisture and sour the honey.

A long paper was read by Rev. S. P. Lander, of Clinton, to refute the popular belief that bees do injury to fruit. Mr. Lander has raised grapes and kept bees, and after years of observation, he is sure a bee never attacks a sound fruit. Bees do not bite into fruits or blossoms to get the juices. If they did the hive would be enriched with honey of the honeysuckle, and some other similar plants from which full drops of honey might be gained if the bee could bite into it. Mr. Lander took issue with several newspapers in which were statements that bees destroy grapes, pointing out many inaccuracies in the statement, and throwing a strong suspicion of falsity upon them. The speaker alluded to Prof. Riley's recomendation that milk-weed be planted to rid buckwheat fields of bees. Mr. Lander thought if any man was fool enough to cumber up his land with milk-weeds, for the sake of killing his neighbor's bees, the bees could stand it if he could. The idea that bees destroy the buckwheat crop, Mr. Lander has considered and watched the growth of the grain and the behavior of the bee, and is convinced there is no truth in it.

After some general discussion, the convention adjourned to meet in Rome, N. Y., next winter, at the call of the executive committee. This year's meetings have been a great success, and have been enjoyed by all present.

All of the discussion of the evening meeting and much that occured during the regular sessions, has not been reported.

The following table will be of interest to all bee-keepers. The information was collected by Secretary Nellis. The whole seasons' operations, and a summary of the methods employed by each bee-keeper, are thus condensed into a line of type, and the records will reward a careful study and comparison.

NAMES.	SUCCESS IN WINTERING. No. of Stocks. Fall, 1873.	Spring, 1874.	Condition in spring	Where Wintered.	SUCCESS OF THE SEASON'S OPERATIONS. No. of Stocks. Spring, 1874.	Fall, 1874.	In fall. Italians.	Blacks.	Kind of Hive.	Amt. honey produced. Box.	Extracted.	Amount of Wax.	Extra Queens Reared.	Principal sources from which the honey was gathered.	Average value of the honey season.	Amt. of sugar fed in fall.
J. Hoffman	60	60	g*	Cellar, 36+.	60	105	105	....	10 frames, 11x13	4,500	350			White clover and basswood	Average	200
H. N. Waters	42	25	w	" 38.	25	42	6	36	7 " 8x17½	1,200	50	5		do. do.	Poor	
J. A. Burdick	21	17	w	House, 35	17	31	31	....	8 " 12½x12½	65	943	5		do. do.	Average	
R. Bacon	61	59	m	" 38.	63	134	....	134	8 " 11x14¾	2,455	506	20		do. do.	do.	
J. H. Nellis	43	20	w	Cellar, 37	20	37	38	....	8 " 10½x18	560	775	33	36	do. do.	Good	15
John Floyd	56	55	g	" 43	55	66	....	66	8 " 11⅞x14⅞	2,010	380	3		do. do.	Average	
L. C. Root	....	....	....	" 45	100	121	50	....	8 " 10x18½	3,000	7 271	75		Chiefly basswood	do.	230
Wm. Miller	8	6	g	Basement	6	16	....	16	Box	100				White clover and basswood	do.	
S. & E. W. Alexander	60	57	w	Cellar, 35	57	112	....	112	8 frames, 12x12	1 800	2,150			do.	do.	
J. Countryman	30	28	g	" 47.	28	48	....	48	Box	100				do. and basswood.	Poor	
C. D. Jones	25	25	g	" 42.	25	30	18	12	10 frames, 12x13	1,300	300			do. buckwheat	Average	
A. H. Root	18	18	g	Out doors	18	29	hyb	....	8 " 10x15½	1 111	712	20		do. basswood.	Good	
L. Baird	27	27	g	Cellar, 40.	24	34	21	hyb	10 " 8¼x16¾	2,000	600	8		do. buckwheat	Average	
G. H. Byrns	....	....	....		20	34	mix	....	10 " 8½x18		1,300			Basswood	Good	
S. P. Landers	27	27	g	Out doors.	35	62		....	9 " 14x12	230				White clover and basswood.	Poor	50
David Klock	97	35	w	Cellar, 34.	35	87	"	87	Box	800		28		Raspberry do. do.	Average	
Jerome B. Tuttle	60	60	m	"	50	103	mix	....	"	250				Chiefly basswood	do.	
E. D. Clark	....	....	....		4	16	....	16	10 frames 17x14¼	100				White clover and basswood.	do.	75
J. Z. Brown	15	9	w	Cellar	2	5	....	5	13 " 10½x10½					do. do.	do.	
N. N. Betsinger	99	94	m	Out doors	78	155	155	....	8 " 9x14¼	6,400			25	Basswood and teasel	do.	
M. H. Tenant	42	37	g	House, 44.	30	50	....	50	8 " 17x10	2.566		25		White clover and basswood.	do.	
I. L. Schofield	40	38	m	Cellar, 39	35	50	50	....	10 " 8¼x17	3,000	400		40	do.	do.	
F. H. Gates	25	20	m	" 40	20	45	10	mix	8 " 10x16	1.000				Clover, basswood & buckw't	Poor	
Martin West	25	25	m	" 38.	35	65	mix	50	Box & 8 frames 10½x18.	1,700	300			do. and basswood	Average	
A. Tuttle	37	34	g	Out doors.	34	70	"	....	9 frames 9x14¼.	1.200				Basswood	do.	
C. C. Van Deusen	60	30	w	Cellar, 41, out doors	54	75	"	....	3 to 8 " 10¼x15 and 16	3,500	275	60		White clover and basswood	do.	25
N. C. Fisk	68	64	m	Cellar, 40.	64	120	....	120	Box	1,100				do.	Good	
A. L. Fish	15	15	w	House, 40.	5	15	3	12	16 frames 12x13	60		10		W. clover, bassw'd & buck.	Average	
H. J. Hildreth	40	30	w	Upper chamber, 50.	30	59	mix	....	6 to 8 " 10x18	700				White clover and basswood.	Poor	
A. M. Sawdie	3	3	g	Out doors.	5	12	....	12	8 " 11x14.	333				do. do.	Good	
W. E. Clark	8	6	w	Upper chamber.	12	23	....	23	Box and 7 frames 12x16.	300		30		do. do.	Average	
D. L. Betsinger.	5	5	m	Out doors.	5	11	....	11	9 frames 12x16	200				do. do.	do.	
Lafayette Richards	14	14	g	Cellar, 40.	14	12	....	12	Box.	100				do. do.	Poor	
S. Joslin	....	....	....		2	5	....	5	"	70				do. do.	Average	
A. N. Comes	24	7	w	Out house.	7	18	....	18	18 frames 11x10	150		11		do. alsike	Good	
J. H. Dudleston	91	82	g	Out doors.	82	162	27	135	9 " 7x16¾	1,820		52		do. basswood.	Average	80
C. A. Shattuck	1	1	w	"	1	2	....	2	8 " 10x10	25				do. do.	do.	
A. W. Smith	....	....	....		2	2	1	1	8 " 10x18½	40	64			Basswood	do.	5
W. P. Wakelee	3	3	g	Out doors	3	7	....	7	Box	60				do. and fall flowers	Poor	
J. E. Hetherington	....	....	....		234	370	mix	....	8 frames 10½x16	19.907	3,150	450		do. buckwheat	Good	

*Explanation—*g*, good; *w*, weak, and *m*, moderate. †Degrees, Farenheit.

J. H. NELLIS, Secretary.

aver. yield 61 a

Comparative Merits of the Italian, Black, and Hybrid Bee.

I see in the AMERICAN BEE JOURNAL during the past year, many articles written on the superiority of the Italian bee for honey-gathering.

Bee-keepers' meetings throughout the country still continue to discuss this subject. In nearly all these writings and discussions, a large majority unite in claiming superiority as honey-gatherers for the Italian bee.

Having kept bees for the last ten years, more as a source of pleasure and pastime than for profit, I have been an impartial but not indifferent observer of the habits, disposition, and honey-gathering ability of the Italian, black, and hybrid bee.

As a result of my observation I would submit the following short statement.

During the ten years I have kept bees, I have had some of each of the above named varieties; a larger portion however has always been pure Italian.

The Italian bee is superior to the Black in the following particulars, viz:

1st. In gentleness of disposition. 2nd. In graceful form, size, and color. 3d. In adhering to the combs when being handled. 4th. In *storing honey close around* and *in* the *common center* or brood nest. 5th. In gathering up and using wax, lying about the apiary. 6th. In *defending their hive against the encroachments of moth.*

The Black bee is superior to the Italian in the following particulars viz: 1st. In ability to withstand a greater degree of cold during winter. 2nd. In being less liable to abandon their hive in the spring on account of weakness of numbers. 3d. In maintaining their strength during an abundant honey-gathering. This is undoubtedly owing to the queen promptly depositing eggs in the cells as fast as the young bees emerge. 4th. In *building new combs* either in boxes or frames for surplus honey. 5th. *strong texture of wings* thereby enabling this member to last as long as the life of the bee. 6th. In rearing broods two or three weeks later in the fall; thus enabling them the better to get through the winter.

As the Hybrid partakes more or less of the Italian or the Black, so will the characteristics of the one or the other as above enumerated be manifest.

Hybrids that I regard as the best in my apiary, are descended from Black mothers; and were obtained in this way: A Black queen was fertilized by an Italian drone. From the eggs of this queen were reared Hybrid queens and where these young queens became fertilized by Italian drones, I have Hybrid colonies the most satisfactory.

Therefore if we wish to secure in a colony, gentleness, beauty of form, size, color, etc., and good defenders against moth; ability to withstand cold, maintain their strength during bountiful honey-gathering, and *build combs* for surplus honey, secure these Hybrids. I obtained more than three times as much box honey from these, as I did from any of my pure Italians last season.

To obtain a large yield of surplus honey from the Italians, the extractor *must* be used.

They *will not* build combs readily in boxes or frames, for the reception of surplus, but instead will deposit the honey, when the flow is abundant, in the brood combs and forstall the queen.

My Hybrids above described will build combs as readily as the Blacks, and give nearly as much box honey as the extractor will from the Italians.

My advise would be to any one wishing to secure *extracted* honey only, to keep pure Italians; because they are the most agreable to handle, and this has to be done very often during the season in using the extractor.

If you want to obtain large amounts of surplus honey' partly in boxes and partly extracted, keep *the Hybrids.* (Second generation from a Black mother is best.)

If you want to secure box honey only, (a less quantity than you can obtain from the Hybrids,) and do not want to handle your bees often, and do not mind being frequently and unceremoniously stung when in the apiary, keep the Black bees.

Camargo, Ill. J. W. MCKINLEY.

Improved Breeding—Queen Raising, etc.

May it not be an important fact in the improved breeding of bees that more particular attention should be paid to *the proper manner of raising queens;* and this brings up a question upon which I with many others would gladly be enlightened.

Has any of our numerous queen breeders observed any difference between queens raised from an old queen, say three or four years, and those raised from one in her first year. In looking over the various volumes of our old *Journal*, I see but little that has a direct bearing on the point. Among poultry breeders it is now pretty generally conceeded, that the largest and most healthy chickens are the product not of the pullet, but of the older hens. Such is contended also to be the case in

stock-raising, and even in the propagation of the different varieties of fruit, in fact many other and similar cases might be cited. Should this be an *established fact*, why should it be otherwise in queen raising?

It was my intention to have opened this question last season, with the hope of learning the views of careful and observing queen breeders. It was again brought to my mind by the re-perusal of a valuable article from the pen of the respected Langstroth, in Vol. 1, Page 92, AMERICAN BEE JOURNAL, (1861), as bearing directly on the question at issue. I will merely cite two instances which came under my observation in the season of 1873. I had a queen in her fourth year (the largest I have ever seen with one exception) which was so prolific, and her progency so industrious, that although she was a hybrid I concluded to breed from her. Not being satisfied with the drones in my own stocks, I took my nuclei to the apiary of a friend about two miles distant (Mr. J. E. Moore,) he having drones from an imported queen, there I bred a number of queens, crossing with Mr. M's drones, and in every instance they proved both prolific and easily handled, some of them even excelling the queen mother in point of prolificness and the markings of their worker progeny. This queen was a descendent of a queen I obtained of Mr. S. B. Parsons in 1861, (which fact called to mind the penning of this article, Mr. Langstroth having spoken of his Parson's queens) and while herself was quite dark her worker progeny were so well marked that they were pronounced by many bee keepers as pure, and some of her daughters were a beautiful orange color. As she had a curious history I may again refer to her.

Again, the same season (1873) I bred from a pure Italian queen the marking of whose bees I was much pleased with, (she being in her third year,) using the same precaution as to drones I had before observed, and with nearly similar results, the progeny of her queens were fully as industrious as these before spoken of, but no more easily handled, neither were her queens any more prolific than were those of the hybrid mother. The same season I bred from young Italian queens (in their first year) as I have in seasons before but I must say not with like satisfactory results.

The old and familiar adage may here be brought to mind "that two swallows never make a spring," therefore, the two favorable instances of breeding from old queens (I am not at all partial to four years but would say at least in the second or third year,) will not establish the truth of the theory of breeding only from old queens, but I ask in all candor, is it not enough by comparison of results to raise at least a doubt and open this question, if so, one object of my writing this article will at least have been attained, another, and the main object in view is to obtain the opinions or rather *the experience* of practical queen raisers on the subject. Can we not get the views of our Editors, Quinby, Alley, Dadant, Grimm, or indeed many others whose experience would be of great importance in the premises.

No one, I presume, will deny the assertion that to become a successful bee-keeper, to any considerable extent, one should be able to raise at least the queens he uses in his own apiary, if for no other reason than to have them just at the time they are wanted. If so, how shall he breed them? If there is any thing of advantage in the position we have taken it should be known. If it isonly an idea, and a mistaken one at that, the sooner it is properly met and controverted the better for all concerned. But as I have already encroached too much upon space which might be more profitably occupied by others, I will close this already too extended communication. "R."

Beaver, Penn., Feb'y 24, 1875.

NOTE.—Since writing the above I have received Mr. Herbert A. Burch's "money in the apiary" in which I perceive he assumes the same position I have taken on the queen raising question.

For the American Bee Journal.

Wintering Bees.

I noticed in the JOURNAL an inquiry from C. D. Hubbard for Mr. Bidwell's, *new method of wintering bees*. Now I do not know what method Mr. Bidwell has, but after three years trial of my present method I am full satisfied it is just what I want. I have kept from thirty to forty stands of bees and have not lost a swarm from freezing, in the manner I am about to mention, and I have talked with others, and all have met with the same result. The beauty of it is, that it is the least trouble of any method I have ever tried, and affords the greatest safety to bees in wintering. It avoids the lugging up and down cellar and the moulding of the comb. It avoids the packing in straw and like material, in the various methods resorted to, to keep them from freezing, my present method will leave them on their summer stands all winter with perfect safety. This is done by a peculiar construction of the hives.

The hive is constructed with double

walls and an air chamber between, filled with straw, and the top and sides so constructed as to allow all moisture arising from the bees to escape, and at the same time keep the cold out. This keeps the bees warm and dry, and consequently lively and vigorous, to resist the inroads of insects in spring. The manner of its construction readily meets the approval of one's reason. But it will also convince by the best of all reasoning, *actual experience*. This hive has not been brought before the public as fast as it ought, owing to the poverty of the inventor not being able to properly advertise it. But if any of the readers of the BEE JOURNAL wants further information concerning it, they can obtain it by addressing Keyes & Finn, Clyde, Jasper Co. Iowa.

Marseilles, Ill. A. F. WALBRIDGE.

For the American Bee Journal.

Stray Thoughts.

At our convention, I failed to get up the interest on some points that I wished. The question of wintering was somewhat discussed, but we failed to agree half as well on that point as did that "Dozen of the same ilk" of Berlin, Wis. They agreed at least, that 45 degrees is about the right temperature to keep bees in winter. That agrees with my views already expressed. Many look at the surface of things only, and get the habit of deciding without due consideration. We do not get all the facts, which in time I hope we shall be enabled to. I wrote an essay on the subject, but did not get it ready for the press before cold weather. There had not been a winter since 1871 suited to throw more light on the subject than the present, either for or against my theory. In this section, not a day through Jan. and part of Dec. was warm enough for bees to fly. Much of the time below zero. From Feb. 7th to the 15th, there was but one morning above zero. Feb. 7th, 16 dg. below; 8th, 8 dg. below; 9th 8 dg. below; 10th, 12 dg. below; 11th a few degrees above; 12th 6 dg. below in morning and at sundown 14 dg; 13th 32 dg. below; 14th 16 dg. below; 15th 4 dg. below. Bees have withstood weather as cold as this in the open air without harm, when there have been warm days, either immediately before or after. But how they will withstand such a pull of two months, and the coldest at the least, we have yet to see.

One man from Saratoga Co., has just written me that his bees show signs of dysenterry now, 15th of Feb. If bees are lost in any section, I hope we shall get the temperature to which they have been exposed.

Another point in which we failed to get up the interest which I thought the importance of the subject demands is the fear of stings. I have worked some time for this without much progress. A few have got rid of the fear, and made bee-keepers. I cannot advise any one to keep bees that can think of nothing but stings, whenever he goes near them. Education on this subject should begin early. Teach children facts only, and perhaps the most disagreeable of these might be judiciously withheld, while the child is being trained in the methods of avoiding stings. I think I have helped some is this matter, in the smoker given to the public, even though my suggestions may not be fully carried out in regard to careful handling. Many persons are governed mostly by a desire to make money, and consequently are apt to attribute the same motive to the suggestion of others, hence my efforts to get people acquainted with bees are probably often thought to arise from a desire to sell my wares. I wish more persons having experience, would work in this field.

Could not bee-keeping be taught as a branch of practical education in some institutions, thus giving children a chance to receive the right kind of instruction. Perhaps Michigan would be central.

Standard frames is another point occupying considerable thought just now. I fear we shall never agree, because we have different interests. We have all heard of the old farmer who went to mill with wheat in one end of the bag, and a stone in the other, to balance when it was thrown across the horses back. He had done it, and his father had before him, and the method was sufficiently proved. Let us all look at it. See how it is proved.

I will speak of size of frames: Mr. A. wants shallow frames. "He gets more honey, he has tried it." Mr. B. wants small ones for extracting. Mr. C. wants deep frames, "Bees winter better. They have such in Russia." Mr. D. likes them about square, say 12 inches. Many more want light frames because they are lighter to handle, &c., &c. Now it is not likely we shall all want frames square because D. does, for we probably have not the same reasons for it that he has. I am making surplus boxes 5x6 inches square. I can put six of them inside of one large frame, I don't want the frame any less. This and other advantages, counterbalanced the inconvenience of handling large frames. When one has a smaller frame and to him there are no counterbalancing advantages in a larger one, it seems to me to be very

silly to change. We need not expect one pound more of honey in one than the other, providing we avoid extremes, and give our bees comb enough, and the same protection. Have we not lost time enough in discussing this question and gained nothing. Let each one use what is most convenient in his circumstances. The convenience of manipulating any sized frame can be studied to advantage, and much gained by experience. This together with training bees and men into quiet, wintering, and many other things which we do not yet half understand, may be discovered with advantage.

St. Johnsville, N. Y. M. QUINBY.

For the American Bee Journal.

Wintering Bees.

I have tried different plans for wintering bees for the last seven years, and I think that some winters require different treatment for successful results. This winter I commenced early in the fall, by feeding and doubling up till they were both strong in colony and stores, keeping them on their summer stands, with no upward ventilation and but little below. If any of the fraternity have had good or bad results in that way, I would like to hear from them. It is not convenient with many of limited means to prepare a suitable repository for wintering, and must rely on other ways of management. Please inform me in regard to a suit commenced several years since by Olis & Langstroth against H. A. King, for infringement on the Langstroth bee hive. Has the case ever been settled by the parties, and how? I have not learned of the result. Let us hear; long live the combined Bee Journals. H. W. WIXOM.

Mendota, Ill.

Sundry Items.

In my article page 61, last number of JOURNAL there is a typographical error that destroys the sense of the passage. In second paragraph sixth line, for *then cover*, read "then can."

I had better be a little more careful how I attack the masked Ku Klux, for some of them may be my old friends as 'Eccentric' appears to be. See page 64. This reminds me what happened one day many years ago when I was a boy ten years old. I went up stairs to dress in a hurry, and while in the act of putting on my vest I noticed a white sheet crawling through the door of the next room toward me; in a sudden fright and seeing nothing within reach for defence, I suddenly doubled my vest and gave it a blow with all my strength. The object suddenly rolled over, and out emerged the negro servant, rubbing his eyes and face, smarting from the blow I had given. Since then I could never stand masked objects.

I am sorry to hear reports of the bee disease again. I had hoped that from our close observations and experiments, during the past few years, we had got sight of a *remedy*, or at least a preventitive. But it now appears that our observation will go on with experiments a few years longer.

My bees to this day are all O. K. not a single stand *lost*. No disease of any sort. All healthy—only one weak stand and I fear that my bungling work with it last night, has destroyed it. Ah! I know your readers want to know what that bungling work was. So I will tell it for the warning of others, *to let bees alone at night*.

A few days ago I had put these bees in a nucleus with five frames, so as to nurse them until they got stronger, as they had a fine queen that I wished to save. Last night it began to turn cold and I had forgotten to take them in before dark; so went out with a candle to take them in but the wind would not allow the carrying of the candle. So I thought I would risk it in the dark, but I had hardly picked up the nucleus and proceeded three steps before *down went all in a mass*, breaking every comb out of the frames. I then got a light and got the bees back, but found the queen almost dead. Today, it being freezing, it is not prudent to open to see if I am minis a fine queen, for my attempt to carry bees in the dark. The cause of this stand getting so weak was, water leaking through top of hive before I was aware of it.

I would here say to all who don't know how I winter, that I use nothing but the quilts, and in some cases I stuff the caps with straw. I leave off the honey boards from many stands all winter. Thanks to J. Butler, of Jackson, Mich., for his grand honey board, I made several of them yesterday, after reading his article on page 57. I made my boxes just the size of honey board ⅞ thick by 3 in. wide, light pine and tacked a piece of woolen blanket on the bottom, and after filling with bran, tack any sort of cloth on the top; but for winter use I think I would prefer wheat or clover chaff, or very dry saw dust. I think the frames would be much less trouble than the quilts. We need not put anything else besides these frames on; the quilts are not always enough covering for the bees. I have tried the manure hot-bed around hives, but saw no benefit from it. I think these box quilts will prove very serviceable. I forgot to say that I keep a high close board fence on the north and west end of my

apiary, that effectually brakes the force the wind.

I would here ask friend Dadant if Edward Uhle of Switzerland, is in Italy—if so then Uhle's queen according to him are pure Italians. I have never received a queen from Uhle that was not a hybrid. Nesbit, Winder, and a few othere got Hybrids of Uhle. I have had but two imported queens to suit me in every respect, I can rear better ones, but still I am in favor of importing, and would not do anything to discourage it. Friend Dadant may have imported good ones. There is rascality somewhere but I rather think it is all with the European bee-keepers, sending us hybrids when they could have sent pure Italians. Can it be that they are ignorant of the test of purity. I always take the three yellow band as the most acceptable test of purity.

Lowell, Ky. R. M. ARGO.

Adulteration of Honey.

Seeing a good deal of discussion in the Bee Journals on the adulteration of honey, and being quite extensively engaged in raising honey for market, both box and extracted, I thought perhaps a few words to the many readers of the BEE JOURNAL who are engaged in the Apiarian business, might not amiss.

In the first place, if bee-keepers who are engaged in raising honey for market will take a little more pains to create a home market, instead of shipping all they raise to Chicago and other cities, to honey dealers, to have it adulterated and make five or six pounds out of one of honey or even more than that, and then for these honey men to ship it back where it was raised and sell it at double the price paid for it, looks like making a good deal from the honey raisers. Let every one who raises honey next summer see that every groeery is well supplied with good box and extracted honey, and there will be no trouble in selling all the honey at home. If the grocers will not buy it, ask the liberty to place it in their store, which no one will object to; allow them a commission on all sales from 10 to 15 per cent and there will be no chance for it to be fixed up with glucose, starch, and slippery-elm bark &c. Congress should make a law governing the adulteration of all articles for family use, placing a heavy fine or imprisonment or both for adulterating anything. There is no country on the face of the globe where adulteration business is carried on as it is in the United States. All kinds of spices, baking powder and other things too numerous to mention are shamefully "fixed up."

I put into winter quarters 165 good stocks of Italians, all right; but the hardest time is to come. I hope to come out all right; it looks as if the parties who write for the BEE JOURNAL were ashamed to have their place of business known. Let every one give their address in full, so that we may know where they live. WM. URIE.

Aurora, Ill.

American Bee Journal.

TERMS OF SUBSCRIPTION.

Single subscriber, one year,	$2.00
Two subscribers, sent at the same time,	3.50
Three subscribers, sent at the same time,	5.00
Six subscribers, sent at the same time,	9.00

All higher clubs at the same rate.

ADVERTISING RATES FOR 1875.

SPACE.	1 Mo.	2 Mos	3 Mos	6 Mos	1 Year.
1 Inch	$ 2 00	$ 3 00	$ 4 00	$ 7 00	$ 12 00
1½ Inch	3 00	4 50	6 00	10 00	18 00
2 Inches	3 50	6 00	8 00	13 00	23 00
3 Inches	5 00	8 50	11 50	18 00	33 00
4 Inches	6 50	10 50	14 00	23 00	40 00
6 Inches	9 00	14 50	18 00	33 00	60 00
1 Column	11 00	18 00	21 50	42 00	80 00
¾ Page	16 00	25 00	40 00	60 00	115 00
1 Page	20 00	35 00	50 00	80 00	150 00

Less than one inch, 20 cents per line.

Next page to reading matter and last page of cover, double rates.

Bills of regular Advertising payable quarterly, if inserted three months or more. If inserted for less than three months, payable monthly. Transient advertisements, cash in advance. We adhere strictly to our printed rates.

Address all communications and remittances to

THOS. G. NEWMAN & SON,
Cedar Rapids, Iowa.

Books for Bee-Keepers may be obtained at this office.

Not one letter in ten thousand is lost by mail if rightly directed.

Single copies of the AMERICAN BEE JOURNAL are worth 20 cents each.

Upon the wrapper of every copy of the JOURNAL will be found the date at which subscriptions expire.

MELLOT CLOVER, for sale at 30 cts. per lb. Larger quantities at low prices by Italian Bee Co. Des Moines, Iowa. tf

Any numbers that fail to reach subscribers by fault of mail, we are at all times ready to send, on application, free of charge.

Subscribers wishing to change their post-office address, should mention their *old* address, as well as the one to which they wish it changed.

Persons writing to this office should either write their Name, Post-office, County and State plainly, or else cut off the label from the wrapper of their paper and enclose it.

JOURNALS are forwarded until an explicit order is received by the publisher for their discontinuance, and until payment of all arrearages is made as required by law.

We do not give our Chromo when subscribers club with other publications, unless they add 25 cents to the amount of the club subscriptions, and say they want the Chromo.

When a subscriber sends money in payment for the AMERICAN BEE JOURNAL, he should state to what time he thinks it pays, so that we can compare it with our books, and thus prevent mistakes.

Answer of Dadant.

In the march number, page 52, I am accused, over the signature T., of having sent queens *claimed to be imported*, which produced black bees and hybrid ones. I now demand the immediate publication of the names and letters of those parties who have received such queens from me *direct* and *not through any other party*, or I demand a retractation over the above named signature. CHAS. DADANT,

Hamilton, Ills.

J. D. Kruschke announces that the long expected "Rapp" and "Esparcet" have arrived. See Advertisement.

A subscriber from Oskaloosa, Iowa, sent us 50 cents last week for subscription, but signed no name. Will he please write again and give us the name.

☞ TO ADVERTISERS.—Advertisements must reach this office by the 20th of the month, to insure insertion in the next issue of the AMERICAN BEE JOURNAL.

Those of our readers interested in Leghorn Fowls, should send for circular of White Leghorns as bred by J. F. Ferris, Stamford, Conn, he takes special pride in this variety and his birds cannot be excelled.

☞ Many valuable articles intended for this issue of the AMERICAN BEE JOURNAL are crowded out by the long, though very interesting report of the New York B. K. Society. They will rppear in our next issue.

Honey Boxes and Labels are advertised by G. H. Wells, Middleton, Ct., and a sample of each has been forwarded to this office. They are neat and convenient, simple, durable and cheap.

☞ A. C. Attwood, Vanneck, Ontario, is our authorized agent in Canada. He will be glad to take the names of 500 good bee-keepers in Canada, for the old reliable AMERICAN BEE JOURNAL.

☞ Parties desiring either Langstroth's or Quinby's Works on Bee-Keeping can get them at this office; but, as the late Congress has seen fit to double the rate of Postage formerly paid—those ordering should enclose twenty cents each for postage.

☞ The Italian Bee Co. will pre pay all express charges on queens ordered from them without extra expense to their customers. They do this because they cannot send by mail, as the Des Moines postmaster forbids it. Address, Italian Bee Co,

Des Moines, Iowa.

BUSINESS NOTICE—The postage on seeds, transient papers &c. having been doubled by late act of Congress, we shall be obliged to ask our customers when remitting money to us for seeds, or specimen copies of journal to add the necessary stamps for postage.

Italian Bee Co., Des Moines, Iowa.

Let every one writing this office make all Postal Orders, Drafts or Checks, payable to THOMAS G. NEWMAN. Address everything of whatever nature to

THOMAS G. NEWMAN & SON,
CEDAR RAPIDS, IOWA.

Honey Markets.

CHICAGO.—Choice white comb honey, 82@30c; fair to good, 24@28c. Extracted, choice white, 14@16c; fair to good, 10@12c; strained, 8@10c.

CINCINNATI.—Quotations from Chas. F. Muth, 976 Central Ave.

Comb honey, 15@35c, according to the condition of the honey and the size of the box or frame. Extracted choice white clover honey, 16c. ℔ lb.

ST. LOUIS.—Quotations from W. G. Smith, 419 North Main st.

NEW YORK.—Quotations from E. A. Walker, 135 Oakland st., Greenport, L. I.

White honey in small glass boxes, 25c; dark 15@20c. Strained honey, 8@12c. Cuban honey, $1.00 ℔ gal. St. Domingo, and Mexican, 90@95 ℔ gal.

SAN FRANCISCO. — Quotations from Stearns and Smith, 423 Front st.

☞ Strained Southern Coast, at 7@10c; Comb, 12@20c; the latter figure for San Deigo, in Harbison frames.

Thanks to your Eastern consumers who have used some 136 tons of our Pacific Coast honey, as shipped *via* rail, which leaves our market in good condition for another season. Our southern counties now have plenty of flowers—the Orange and Almond trees are in blossom, and bees hard at work. Our market quotations remain about the same.

STEARNS & SMITH.

BEE-KEEPERS' SUPPLIES.—We can supply Bees, Bee-Hives, Extractors, Honey Jars, Labels, Straw mats, Blankets, &c., &c., at manufacturers' prices. When you want anything in the line of Bee-Keepers' Supplies, write to the office of the AMERICAN BEE JOURNAL, at Cedar Rapids, Iowa.

THOS. G. NEWMAN.

Back Volumes.

Complete sets of back volumes are scarce. But few can be procured at any price. We have a set, consisting of the nine volumes (complete), which we offer for sale, either bound or unbound, for a reasonable sum. Many of the numbers we have paid fifty cents each for, to complete them.

We have several single volumes (complete) which we will send postpaid for $2.00 each.

Several volumes, which lack only a single number of being complete, we will send postpaid for $1.50 each.

Vol. 1, we can supply in cloth boards, postpaid, for $1.25. Bound in paper covers, $1.00 postage 10 cents. This volume is worth five times its price to any intelligent bee-keeper. It contains a full elucidation of scientific bee-keeping, including the best statement extant of the celebrated Dzierzon theory. These articles run through eight numbers, and are from the pen of the Baron of Berlepsch.

☞ Beginners in bee-culture, who desire to read up in the literature of bee-keeping, are earnestly advised to obtain these back volumes. Many of our best apiarians say they would not sell their back volumes of the AMERICAN BEE JOURNAL for ten times the sum they cost, if they could not replace them. They are exceedingly valuable alike to beginers and more advanced apiarians.